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1

9.129 800

LLG-Universal indicator paper, rolls

For the determination of pH values. Plastic dispensing reel with 1 roll à 5m.

Range	PK	Cat. No.
pH		
1 - 11	1	**9.129 800** 1
1 - 14	1	**9.129 802**

2

Refill packs containing 3 rolls.

Range	PK	Cat. No.
pH		
1 - 11	3	**9.129 801**
1 - 14	3	**9.129 803**

3

Universal indicator papers

For determination of pH- value. *MACHEREY-NAGEL*
Plastic dispensing reel with 1 roll of indicator paper and colour scale.

Range	PK	Cat. No.
pH		
1 - 11	1	**9.130 200**
1 - 14	1	**9.130 210**

Further indicatorpapers available on request.

4

Refill packs universal contain 3 rolls. *MACHEREY-NAGEL*

Range	PK	Cat. No.
pH		
1 - 11	3	**9.130 203**
1 - 14	3	**9.130 213**

Further indicatorpapers available on request.

5

Special indicator papers

For determination of pH- value. *MACHEREY-NAGEL*
Plastic dispensing reel with 1 roll of indicator paper and colour scale.

Range	PK	Cat. No.
pH		
0.5 - 5.5	1	**9.130 305**
5.5 - 9.0	1	**9.130 325**

Further indicator papers available on request.

6

Refill packs special contain 3 rolls. *MACHEREY-NAGEL*

Range	PK	Cat. No.
pH		
0.5 - 5.5	3	**9.130 306**
5.5 - 9.0	3	**9.130 326**

Further indicatorpapers available on request.

1 Indicator paper, Duotest

Roll length 5m, 10mm width. With two colour zones. *MACHEREY-NAGEL*
Plastic box with 1 roll of indicator paper and colour scale.

Range	PK	Cat. No.
pH		
1 - 12	1	**9.130 344**
1,0 - 4,3	1	**9.130 356**
3,5 - 6,8	1	**9.130 359**
5,0 - 8,0	1	**9.130 347**
7,0 - 10,0	1	**9.130 362**
9,5 - 14,0	1	**9.130 363**

1

2 **Refill packs Duotest contain 3 rolls.** *MACHEREY-NAGEL*

Range	PK	Cat. No.
pH		
1 - 12	3	**9.130 355**
5.0 - 8.0	3	**9.130 358**

2

3 Indicator paper, Tritest

For determination of pH-value. *MACHEREY-NAGEL*
Roll length 5M, 10mm width. With three colour zones, without hydrophobic zone.
Plastic container with 1 roll of indicator paper and colour scale.

Range	PK	Cat. No.
pH		
1 - 11	1	**9.130 367**

3

4 Refill packs Tritest contain 3 rolls. *MACHEREY-NAGEL*

Range	PK	Cat. No.
pH		
1 - 11	3	**9.130 368**

4

5 Universal indicator paper Tritest L

For determination of pH- value. *MACHEREY-NAGEL*
Roll length 6M, 14mm width. With 3 colour zones and 2 hydrophobic zones.
The zones are separated by a hydrophobic barrier, which effectively prevents mixing of the reaction colours and increases mechanical stability.
Plastic container with 1 roll of indicator paper and colour scale.

Range	PK	Cat. No.
pH		
1 - 11	1	**9.130 360**

5

6 Refill packs Tritest L contain 3 rolls. *MACHEREY-NAGEL*

Range	PK	Cat. No.
pH		
1 - 11	3	**9.130 361**

6

1

1 LLG-Indicator paper strips

Range	Description	PK	Cat. No.
pH			
0 - 11	pad of 100 strips	100	**9.129 804**
0 - 14	pad of 100 strips	100	**9.129 805**
0 - 14	50 strips per pack	50	**9.129 806**
0 - 14	100 strips per pack	100	**9.129 807**

2

2 Indicator paper, PEHANON®

For determination of pH-value in coloured solutions. *MACHEREY-NAGEL*
Supplied in packs of 200, 11 x 100mm W x L strips.

Range	PK	Cat. No.
pH		
1 - 12	200	**9.130 657**
0 - 1.8	200	**9.130 658**
1.0 - 2.8	200	**9.130 651**
1.8 - 3.8	200	**9.130 652**
2.8 - 4.6	200	**9.130 656**
3.8 - 5.5	200	**9.130 603**
4.0 - 9.0	200	**9.130 659**
5.2 - 6.8	200	**9.130 605**
6.0 - 8.1	200	**9.130 626**
7.2 - 8.8	200	**9.130 660**
8.0 - 9.7	200	**9.130 366**
9.5 - 12.0	200	**9.130 661**
10.5 - 13.0	200	**9.130 663**
12.0 - 14.0	200	**9.130 666**

3

3 pH-Fix indicator strips

For determination of pH- value. Permanent colour. Non bleeding. *MACHEREY-NAGEL*

Range	PK	Cat. No.
pH		
0 - 6.0	100	**9.130 382**
0 - 14	100	**9.130 381**
0 - 14 PT*	100	**9.130 379**
0.3 - 2.3	100	**9.130 385**
1.7 - 3.8	100	**9.130 386**
2.0 - 9.0	100	**9.130 380**
3.1 - 8.3 CE**[1)]	100	**9.130 377**
3.6 - 6.1 PT* CE**[1) 2)]	100	**9.130 378**
3.6 - 6.1 CE**[1) 2)]	100	**9.130 387**
4.5 - 10.0 CE**[1)]	100	**9.130 383**
5.1 - 7.2	100	**9.130 388**
6.0 - 7.7	100	**9.130 389**
6.0 - 10.0	100	**9.130 392**
7.0 - 14.0	100	**9.130 384**
7.5 - 9.5	100	**9.130 390**
7.9 - 9.8	100	**9.130 391**

* PlopTop tube.
** CE-marked according to the 1) IvD-directive 98/79/EG 2) the directive for medical products 93/42/EWG.

4

4 pH indicator strips

Non-bleeding. Ranges as indicated. Supplied in packs of 100 strips. *Merck*

Type	Range	Increments	PK	Cat. No.
	pH	pH units		
Universal	0 - 14	1	100	**9.130 001**
Acilit	0 - 6	0.5	100	**9.130 016**
Neutralit	5 - 10	0.5	100	**9.130 017**
Alkalit	7,5 - 14	0.5	100	**9.130 018**

1 Special indicator strips

Non-bleeding. Supplied in packs of 100 strips. *Merck*

Range pH	PK	Cat. No.
0.0 - 2.5	100	**9.130 002**
2.0 - 9.0	100	**9.130 003**
2.5 - 4.5	100	**9.130 004**
4.0 - 7.0	100	**9.130 007**
5.2 - 7.2	100	**9.130 009**
6.5 - 10.0	100	**9.130 010**
11.0 - 13.0	100	**9.130 013**

1

2 Litmus paper

Litmus paper, available in blue, red and neutral. Supplied in booklets of 100 strips, 10 x 70mm W x L. *MACHEREY-NAGEL*

Type	Measuring range	Colour change	PK	Cat. No.
Litmus paper, blue	8.0 to 5.0	blue - red	1	**9.130 112**
Litmus paper, red	5.0 to 8.0	red - blue	1	**9.130 116**
Litmus paper, neutral	5.0 to 8.0	red - violett - blue	1	**9.130 118**

Also available as reel. Refill packs available separately.

2

3 pH tester Checker 1

Pocket pH tester with exchangeable electrode. *Hanna*
Ideal for pH testing small amounts of liquid and in narrow vessels.

Specifications:

Measuring range:	0.00 to 14.00 pH
Accuracy:	±0.2 pH
Battery:	2 x 1.5V cells
Probe dimensions:	66 x 55 x 25 mm
Weight:	63g

Type	PK	Cat. No.
Checker 1	1	**9.773 930**
Spare electrode HI1270	1	**9.773 931**
Calibration kit, 5 x 20 ml pH 4 and pH 7	1	**9.773 932**
Calibration kit, 10 x 20 ml pH 7	1	**9.773 933**

3

4 Pocket pH meters, PICCOLO

Handy pocket pH meters with built-in amplifier electrode for greater measurement stability. Automatic temperature compensation via built-in temperature sensor. *Hanna*
Two point calibration.
Piccolo Plus model has additional temperature display.
Supplied complete with electrode, batteries and buffer solutions in ABS case.

Specifications:

Measuring range:	0.00 to 13.00pH 0 to 70°C (Piccolo Plus only)
Accuracy:	±0.01pH ±1°C (Piccolo Plus only)
Batteries:	3 x 1.5V cells giving up to 100 hours operation
Dimensions:	172mm x 29mm x 15mm
Weight:	80g

Type	PK	Cat. No.
PICCOLO I	1	**9.773 946**
PICCOLO II	1	**9.773 945**
PICCOLO Plus	1	**9.773 944**
Spare electrode HI 1280 for PICCOLO I	1	**9.773 947**
Spare electrode HI 1290 for PICCOLO II	1	**9.773 948**
Spare electrode HI 1295 for PICCOLO Plus	1	**9.773 950**

4

1

1 pH/°C tester pHep®-4

Hanna

Recently developed waterproof pH °C tester (IP67).
First pH tester with handheld measuring device features.
Automatic two point calibration with 3 pre-programmed standard buffers (pH 7.01; pH 4.01; pH 10.01).
Stability indicator for high-precision measurements. Simultaneous display of pH value and °C.
Optional automatic or manual temperature compensation. Includes exchangeable HI 73127 pH electrode.

Specifications:

Measuring range:	0.0 to 14.0 pH 0.0 to 60.0°C
Accuracy:	±0.1 pH ±0.5°C
Batteries:	4 x 1.5V
Environmental conditions:	0 to +50°C
Dimensions:	163 x 40 x 26mm
Weight:	100g

Type	PK	Cat. No.
pHep®-4	1	**9.773 920**
Spare electrode HI 73127	1	**9.773 921**
Calibration Kit pH 7.01 + 10.01, 5 x 20 ml	1	**9.773 934**
Calibration kit pH 4.00 + 7.01, 5 x 20 ml	1	**9.773 932**

2

2 pH/°C Meter HI 991001

Hanna

- Portable pH/°C -Meter for laboratory use
- displays pH and temperature simultaneously
- stabilty Indicator prevents unstable measurements
- automatic 2 point calibration with pre-programmed standard buffers (pH 7.01; 4.01; 10.01)
- automatic temperature compensation enables highest accuracy
- supplied with amplified pH Electrode HI 1296D with integral temperature sensor

Specifications:

Measuring ranges:	-2.00 to 16.00 pH -5.0 to 105°C
Accuracy:	±0.02 pH ±0.5°C
Battery:	1x 9 Volt
Operating temp. range:	0 to 50.0°C
Weight:	500g

Type	PK	Cat. No.
HI 991001	1	**9.733 998**
Spare electrode HI 1296D	1	**9.773 982**

3

3 pH/ mV/ °C Meters HI 8314N/HI 83141

Hanna

HI 8314N: supplied complete with plastic-bodied pH electrode HI1217D with integral temperature sensor, calibration screwdriver, 9 Volt Battery.

HI 83141: supplied complete with plastic-bodied pH electrode HI1230B, separate temperature probe, calibration screwdriver, 9 Volt battery.

Measuring range/Accuracy:

pH:	0.00 to 14.00/±0.01
mV:	0 to ±1999 (ORP)/±1
°C:	0.0 to 100.0/±0.4
pH calibration:	manual, 2 point, through trimmers, (offset ±1 pH; slope 85 to 105%)
Temperature compensation:	automatic, 0 to 70°C (32 to 158°F) or fix at 25°C without temperature probe
Dimensions:	185mm x 82mm x 45mm
Battery type/operating life:	1 x 9V/approx. 100 hours of continuous use

Type	PK	Cat. No.
HI 8314N	1	**9.773 959**
HI 83141	1	**9.773 953**
Spare electrode HI 1217D for HI 8314N	1	**6.234 050**
Spare electrode HI 1230B for HI 83141	1	**6.050 012**

1 Waterproof pH-/mV-/°C- Meters HI 9125 and HI 9126

Hanna

- rugged waterproof pH Meters
- pH or mV value and temperature are displayed simultaneously
- graphical symbols guide the user through calibration and measurement
- automatic one or two point calibration with pre-programmed standard buffers (pH 4.01, 6.86, 7.01, 9.18, 10.01)
- automatic or manual temperature compensation
- additionally, HI 9126 displays the electrode status, 2 customs buffers can be programmed
- HI 9125 & HI 9126 are supplied with plastic pH electrode, temperature probe buffer solutions pH 4.01 and 7.01 (20ml each), 3 x 1.5V batteries all contained within a carrying case

1

Specifications

Range:	
pH	-2.00 to 16.00
mV	-1999 to +1999
°C	-20.0 to +120.0
Accuracy:	
pH	±0.01
mV	±1
°C	±0.4
Dimensions:	192 x 72 x 36mm
Weight:	525g

Type	PK	Cat. No.
HI 9125	1	**9.773 978**
HI 9126	1	**9.773 979**
Spare electrode HI 1230B	1	**6.050 012**

2 Foodcare pH Meter HI 99161 with penetration electrode

Hanna

The FC202D electrode supplied is highly suitable for measurements in Food products like fruit juices, yoghurt, butter, cheese and meat, due to its conical profile. It has a built in temperature sensor. pH and temperature are displayed simultaneously. With Stability indicator. Automatic 1- or 2-point calibration with pre-programmed standard buffers (pH 4.01; 7.01; 10.01).

Instrument is supplied with Foodcare Electrode FC202D, pH 7.01 & pH 4.01 buffer solutions (one sachet of 20ml each), cleaning solutions (2 x 20ml) 4 x 1.5 Volt batteries, all contained in a carrying case.

2

Measuring range/Accuracy:

pH:	-2.00 to 16.00/±0.01
°C:	-5.0 to 105.0/±0.4
Battery type:	4 x 1.5 Volt AAA
Operating range:	0 to 50°C
Weight:	205g

Type	PK	Cat. No.
HI 99161	1	**6.233 767**
Spare electrode FC 202D	1	**6.235 596**

1

2

1 2 pH/Redox-Meter SD300pH

NEW!

AQUALYTIC

Rugged, water resistant (IP67) designed for field use
- Waterproof Hand-held Meter for pH/Redox/Temperature
- Automatic buffer detection for calibration
- Data logger and alarm function (min./max.)
- Good Laboratory Practice (GLP-features)
- Clear, concise result reading: easy-to-read backlit LCD display
- Automatic temperature compensation
- PC interface for data download (USB/serial or analog)
- High resolution (0.001 pH/0.1 mV)

Supplied with:
SD300PH: Meter without electrode, incl. batteries and manual
SD300PH Set-1: Meter complete in case, incl. manual and batteries, pH electrode with temperature sensor plastic/gel-BNC plug, buffer solution 4/7/10 pH (90 ml each)
SD300PH Set-2: Meter complete in case, incl. manual and batteries, pH electrode with temperature sensor plastic/gel-BNC plug, temperature sensor PT 100, buffer solution 4/7/10 pH (90 ml each)

Specifications

pH:	-2.000 to 16.000
Accuracy:	±0.005
Temperature:	-5.0 to +150°C
Accuracy:	±0.2°C
Redox (ORP):	-2000.0 to 2000.0mV
Accuracy:	±0.05% FS (mV or mVH)
Dimensions (WxDxH):	86 x 160 x 37mm
Power supply:	2 x AAA battery
Power consumption:	< 1.0mA
Protection class acc. to:	IP 67

Type	PK	Cat. No.
SD300PH	1	**9.699 275**
SD300PH Set-1	1	**9.699 276**
SD300PH Set-2	1	**9.699 277**

3

3 Portable pH meter Education Line EL2

NEW!

Mettler-Toledo Online

Experience science with portable pH meters.

- Simple intuitive operation helps you save time during classes
- Ideally suited for classroom and field-based measurements alike
- Robust, low-maintenance, yet reliable electrodes available in kit version

EL2-Basic: pH instrument incl. electrode clip, wrist strap, operating manual, "Quick guide", 4 x batteries
EL2-Kit: Instrument and accessories as with EL2 Basic, also with LE407 pH electrode, IP54 connection caps, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets
EL2-Fieldkit: Instrument and accessories as for EL2 Kit, also with carry bag incl. 4 sample bottles

Please note: These articles are only available for schools and universities.

Specifications

pH-range/accuracy:	0.00 to 14.00/±0.01
mV-range/accuracy:	-1999 to +1999/±1
Temperature range/accuracy:	0.0 to +100.0°C/±0.5°C
Calibration:	Max. 2 points, 3 predefined buffer groups
Free disk space:	30 datasets
Display:	LCD
Batteries:	4 AAA, 1.5V
Dimensions (WxDxH):	169 x 82 x 36mm
Weight:	180g (without batteries)

Type	PK	Cat. No.
EL2-Basic	1	**9.704 000**
EL2-Kit	1	**9.704 001**
EL2-Fieldkit	1	**9.704 002**
Spare electrode LE407	1	**9.041 619**
Additional electrode LE409	1	**9.041 620**

1 pH meter FiveGo™ pH FG2

NEW!

Mettler-Toledo Online

FiveGo™ pH is a handy, portable meter ideal for those who require rapid and reliable results on the go. This meter is suitable for a wide range of applications in various areas such as food and beverage, agriculture, industry, water and environment

- Outstanding functions including storage capacity for up to 30 measurements, mV/ORP measuring mode and IP54 protection against dust and water ingress are combined with useful features such as automatic endpoint recognition and calibration with automatic buffer recognition.
- Five self-explanatory operating and function buttons for easy measurement, menu access, saving and recalling results and calibration recall
- A big, well organised display that simultaneously shows readings, temperature and endpoint criteria along with helpful icons
- Useful accessories such as the electrode clip, wrist strap and laminated quick guide are enclosed with every FiveGo. The electrode kit version also includes the LE438 electrode (Food Kit with LE427 puncture electrode) and the Field Kit version comes in a handy carry bag with 4 sample bottles.

FG2-Basic: pH instrument incl. electrode clip, wrist strap, operating manual, "Quick guide", 4 x batteries
FG2-Kit: Instrument and accessories as with FG2-Basic, with LE438 pH electrode, IP54 connection caps, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets
FG2-Fieldkit: Instrument and accessories as for FG2-Kit, with carry bag incl. 4 sample bottles
FG2-Food Kit: Instrument and accessories as with FG2-Basic, with LE427 puncture pH electrode, IP54 connection caps, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets, with carry bag incl. 4 sample bottles

Specifications:

Measuring range (Accuracy)	
pH:	0.00 to 14.00pH (±0.01pH)
mV:	-1999 to +1999mV (±1mV)
Temperature:	0 to +100°C (±0.5°C)
Calibration:	2 points, 4 predefined buffer groups
Input:	BNC/Cinch (NTC)
Temperature compensation:	ATC and MTC
Memory:	30 measurements
Power supply:	4 x AAA
Protection class acc. to DIN EN 60529:	IP 54

Type	PK	Cat. No.
FG2-Basic	1	**9.972 060**
FG2-Kit	1	**7.619 615**
FG2-Fieldkit	1	**9.972 061**
FG2-Food Kit	1	**9.972 062**

1

1 pH-meter SevenGo™ SG2

NEW!

Mettler-Toledo Online

Routine model (IP67) for portable pH measurement.
- Clear display of measured values and settings
- Continuous indication of electrode and battery status
- 3-point calibration with automatic buffer recognition and temperature compensation
- Data memory for 30 data points
- Power requirements: 4 x 1.5V AA or rechargeable 1.3V NiMH batteries

Items supplied:
SG2-B: pH-meter, wrist strap, four 1.5V AA batteries, operating instructions, a test certificate and a declaration of conformity.
SG2-ELK: pH-meter with InLab®413 SG IP67 rated "3-In-1" electrode (1.8m fixed cable) complete with batteries, wrist strap, SevenGo™ clip, buffer sachets (2 each ; 4.01, 7.00 and 9.21), operating instructions, test certificate and declaration of conformity
SG2-FK: pH-meter with InLab®413 SG IP67 rated "3-In-1" electrode (1.8m fixed cable) with field compact case, rubber holster, field electrode arm, calibration bottles, and same accessories as SG2-ELK SevenGo™ pH kit
SG2-FoodKit: pH-meter with InLab® Solids Pro IP67 rated "3-In-1" electrode (1.8m fixed cable) complete with batteries, wrist strap, Food Compact Case, SevenGo™ clip, buffer sachets (2 each ; 4.01, 7.00 and 9.21), operating instructions, test certificate and declaration of conformity

Specifications:

Dimensions (WxDxH):	90 x 45 x 220mm
pH	
Measuring range:	0.00 to 14.00
Resolution:	0.01
Accuracy:	±0.01
mV	
Measuring range:	-1999 to 1999mV
Resolution:	1
Accuracy:	±1
Relative mV-measurement:	no
Temperature	
Measuring range:	-5.0 to +105.0°C
Resolution:	0.1°C
Accuracy:	±0.5°C

Type	PK	Cat. No.
SG2-B	1	**9.704 103**
SG2-ELK	1	**9.704 104**
SG2-FK	1	**6.232 917**
SG2-FoodKit	1	**9.704 301**

1

1 pH/Ion-meter SevenGo pro™ SG8

NEW!

1

Mettler-Toledo Online

Professional portable pH/Ion meter (IP67) for highest demands
- Simple ion concentration determination
- Time interval measurement with automatic data logging
- Data memory for 200 GLP data points
- Segmented or linear calibration as desired
- 5-point calibration with choice of 6 predefined and one user-defined buffer groups
- Contact-free IR communication for data transfer to a printer or PC

Items supplied:
SG8-B: pH/ion meter with BNC fitting, complete with batteries, wrist strap, operating instructions, test certificate and declaration of conformity, no electrode
SG8-ELK: pH/ion with InLab®413 SG IP67 rated "3-In-1" electrode (1.8m fixed cable) complete with batteries, wrist strap, SevenGo™ clip, buffer sachets (2 each; 4.01, 7.00 and 9.21), operating instructions, test certificate and declaration of conformity
SG8-FK: pH/ion meter with InLab®413 SG IP67 rated "3-In-1" electrode (1.8m fixed cable), with field compact case, field electrode arm, calibration bottles, rubber holster and same accessories as SG8-ELK

Specifications:

pH	
Measuring range:	-2.000 to 19.000
Resolution:	0.001
Accuracy:	±0.002
mV (rel. mV)	
Measuring range:	-1999 to 1999mV
Resolution:	0.1
Accuracy:	±0.2
Temperature	
Measuring range:	-5.0 to 130.0°C ATC -30.0 to 130.0°C MTC
Resolution:	0.1°C
Accuracy:	±0.2°C

Type	PK	Cat. No.
SG8-B	1	**9.704 105**
SG8-ELK	1	**9.704 106**
SG8-FK	1	**9.704 328**

Pocket pH meters ProfiLine Serie

WTW

The WTW ProfiLine, hand-held, pH/mV meters are robust and waterproof, according to IP67. They have LCD or graphics displays. The proven DIN socket for connecting pH electrodes permits pH measurement even in wet environments.
The instruments can be operated by standard alkaline or rechargeable batteries.

2 3 pH meter pH 3110 ProfiLine

WTW

Make testing simple. Easy operation virtually eliminates errors. All function keys of the 3110 can be operated even when wearing gloves; automatic calibration and AutoRead functions ensure stable and reproducible results.
The multifunctional display for pH, and temperature is always easy to read.

2

3

Measuring ranges

pH:	-2.0 ... +20.0 -2.00 ... +20.0 -2.000 ... +19.999
Accuracy:	±0.01 pH (±1 digit) ±0.005 from +15°C to +35°C
mV/Accuracy:	±1200.0/±0.3 ±2000/±0.1
Temperature:	-5.0 to +105.0°C
Accuracy:	±0.1°C
Temperature compensation:	Automatic via pH electrodes with integral temperature probe, TFK 325 or Pt100

Type	Description	PK	Cat. No.
pH 3110	meter only	1	**9.774 367**
pH 3110 Set 1	case set including SenTix 21 and accessories	1	**9.774 376**
pH 3110 Set 2	case set including SenTix 41 and accessories	1	**9.774 354**
pH 3110 Set 3	case set including SenTix 81 and accessories	1	**9.774 317**

1

2

1 2 pH meter pH 3210/pH 3310 ProfiLine

pH meter pH 3210 *WTW*

Convenient and versatile pH/mV meter with backlit graphics display and menu controlled operation. Waterproof and robust. With 5 point calibration for WTW technical or DIN/NIST buffers. Additional 20 pre-programmed buffer sets. The new CMC function (Continuous Measurement Control) helps maintain the optimum measuring range and warns when limits are exceeded.

pH meter pH 3310

The pH/mV handheld meter with integral, time controlled, data logger and memory for 5000 GLP compliant records is ideal for extended data collection. With 1 to 5-point pH calibration. Menu controlled, with backlit graphics display for comfortable and safe operation. Unique CMC-function for controlling the optimum measuring range. 100% waterproof, USB interface for fast data transfer. Includes driver software and cable.

Measuring ranges

pH:	-2.0 ... +20.0
	-2.00 ... +20.00
	-2.000 ... +19.999
Accuracy:	±0.005 pH from +15°C to +35°C
mV/Accuracy:	±1200.0/±0.3 mV
	±2500/±0.1 mV
Temperature:	-5.0 to +105°C
Accuracy:	±0.1°C
Interface (pH3310 only):	Mini USB-B
Memory	
pH3210:	200 records (measured value, temperature, date, time, ID)
pH3310:	5000 records (measured value, temperature, date, time, ID)

Type	Description	PK	Cat. No.
pH 3210	meter only	1	**9.774 377**
pH 3210 Set 2	case set including SenTix 41 and accessories	1	**9.774 355**
pH 3210 Set 3	case set including SenTix 81 and accessories	1	**9.774 318**
pH 3210 Set 4	case set including SenTix 51 and accessories	1	**9.774 319**
pH 3310	meter only	1	**9.774 337**
pH 3310 Set 2	case set including SenTix 41 and accessories	1	**9.774 356**
pH 3310 Set 3	case set including SenTix 81 and accessories	1	**9.774 375**
pH 3310 Set 4	case set including SenTix 51 and accessories	1	**9.774 329**

Protective armouring SM Pro, for ProfiLine handheld meters

Soft rubber, shock absorbing cover for ProfiLine handheld meters *WTW*

Type	PK	Cat. No.
SM Pro	1	**9.774 118**

3 Storage and maintenance kit for pH meters

Kit with one pH storage sleeve, technical buffer solution pH 4 and pH 7, 30ml KCl, 50ml cleaning and 50ml storage solutions. *WTW*

Type	PK	Cat. No.
Safe Kit	1	**9.774 117**

3

1 Laboratory pH Meter with built in Magnetic Stirrer, HI 208-02

NEW!

Hanna

Compact, easy to use pH Meter with built in Magnetic Stirrer, suitable for educational purposes.
- pH and temperature value are displayed together on the Dual Level LCD
- Automatic 1- /2- Point Calibration with pre-programmed buffers (pH 4.01, 7.01 and 10.01)
- Automatic temperature compensation from -5.0 to 105.0°C

HI 208-02 is supplied with pH Electrode HI 1291D (with internal temperature sensor), pH Electrode holder and plastic beaker, stirring bar, 9V battery, 12V adapter, pH buffer solutions (2 sachets of 20ml each)

Specifications

Measuring range/Accuracy:	-2.00 to 16.00pH/±0.01pH
Temperature range/Accuracy:	-5.0 to +105.0°C/±0.5°C (up to 60°C)
Power Supply:	12V Adapter or 9V battery (included)
Weight:	500g

Type	PK	Cat. No.
pH meter HI 208-02	1	**6.233 844**
Spare electrode HI 129D	1	**6.235 794**
Measuring beaker HI 740036P, 50ml	10	**9.773 919**

2 pH Meters, Lab 850 and 860

SI Analytics GmbH

CalClock function keeps your calibration under control: This unique combination of sensor evaluation and calibration timer monitors all calibration relevant parameters (buffer, electrode, curve slope, zero-point, time) and immediately indicates any errors.

Features:
- keypad
- clock
- large LCD display
- calibration interval adjustable
- alarm

Lab 850 is now equipped with:
- bi-directional RS 232C interface
- memory: 800 data records
- GLP compliant
- 3 point calibration

Additional features Lab 860:
- USB (slave) connection
- 5 point calibration

Items supplied: pH meter Lab 850 or pH meter Lab 860, electrode BlueLine pH14 with temperature sensor, support, cover, power supply and DIN buffers 4.01 and 6.87.

Specifications:

Measuring range:	-2.00 to +19.999pH or -999.9 to +999.9mV and -1999 to +1999mV
Temperature range:	-5.0 to +120.0°C

Type	PK	Cat. No.
Lab 850 Set	1	**9.773 850**
Lab 860 Set	1	**9.773 855**

1

1 pH measuring instrument Lab 870

SI Analytics GmbH

ID electrodes and meters with automatic identification and data exchange and allocation.
- Reliable and precise measuring values due to perfect matching with the measuring system consisting of meter, electrode and buffer solutions.
- Fast pH measurement and calibration through advanced measuring algorithm.
- Maintains reliablity with "CalClock", sensor recognition and calibration timer.
- Fast and easy documentation complying with GLP through perfect communication via USB (slave) and RS232.
- Highest safety for measuring and calibrating through wireless sensor recognition.
- ID electrodes and meters with automatic identification and data exchange and allocation.
- The special stand - mounting with one click and the stand is positioned firmly and safely.

Items supplied in set:
- measuring instrument
- ID-electrode with integrated temperature sensor
- buffer solutions
- stand
- universal power supply unit
- cover

Specifications

pH measuring range:	-2.000pH to +19.999pH
	-2.00pH to +19.99pH
Accuracy (±1digit):	±0.005
	±0.01
mV measuring range:	-999.9mV to +999.9mV;
	-999mV to +999mV
Accuracy (±1digit)	±0.3mV
	±1mV
Temperature measuring range:	-5.0°C to + 120.0°C
Accuracy (±1digit):	0.1°C

Type	PK	Cat. No.
Lab 870 DIN Set	1	**9.773 851**
Lab 870 BNC Set	1	**9.773 852**

2

3

2 3 Laboratory instrument inoLab® pH 7110

WTW

The new inoLab® pH 7110 is a basic pH/mV benchtop meter for fast and accurate results without efforts. A big LCD segment display makes readings easy; a well-arranged keypad provides convenient operation. The automatic AutoRead function supports correct and repeatable results. An adjustable built-in calibration timer reminds the user of periodical calibration. Each meter comes including stand and accessories.

Specifications

Ranges	All values ±1 digit
pH:	-2.0 ... 20.0 ±0.1 pH
	-2.00 ... 20.00 ±0.01 pH
	-2.000 ... 19.999 ±0.005 pH
mV:	±(1200.0 ±0.3) mV
	±(2000 ±1) mV
Calibration:	1-, 2- or 3 point WTW technical buffer or DIN/NIST
Temperature:	-5.0 ... 105.0°C ±0.1°C
Power supply:	Universal power supply 100 to 240V, 50/60Hz, 4 x 1.5V AA or 4 x 1.2V NiMH rechargeable batteries

Type	Description	PK	Cat. No.
pH 7110	Single unit incl. accessories	1	**9.920 090**
pH 7110 SET 2	Meter incl. SenTix® 41 and accessories	1	**9.920 091**
pH 7110 SET 4	Meter incl. SenTix® 81 and accessories	1	**9.920 092**
pH 7110 BNC	Single instrument including accessories, BNC input	1	**9.920 093**
7110 BNC SET 7	Meter incl. SenTix® 42 and accessories	1	**9.920 094**
7110 BNC SET 9	Meter incl. SenTix® 82 and accessories	1	**9.920 095**

1 Laboratory instrument inoLab® pH 7310

1

Reliable Documentation for pH measurement, if desired also available with built-in printer: *WTW*
This is the new inoLab® pH 7310 or inoLab® pH 7310P. A modern backlit graphic display with menu controlled user interface allows easy and intuitive operation.
The mini USB-B interface provides fast data transfer to a PC. The internal memory can record up to 5000 GLP complying data including ID, date and time. The housing and the keypad are easy-to-clean.
Up to five calibration points cover almost the complete pH range. A calibration history of the 10 last calibrations allows conclusions on the state of the sensor. An integrated thermal printer (58mm width) is ready for printout of the measured data (option).
Supplied with: meter, power supply, stand and USB cable.

Specifications

Ranges	All values ±1 digit
pH:	-2.0 ... 20.0 ±0.1 pH
	-2.00 ... 20.00 ±0.01 pH
	-2.000 ... 19.999 ±0.005 pH
mV:	±(1200.0 ±0.3) mV
	±(2500 ±1) mV
Temperature:	-5.0 ... 105.0°C ±0.1°C
Calibration:	1-, 2-, 3-, 4-, 5 point WTW technical. DIN, NIST and 20 additional buffer sets
Calibration memory:	Up to 10 calibrations recallable
Display:	LCD Graphic, backlit
Memory:	manual 200/5000 automatic
Logger:	manual/time controlled
Interface:	Mini USB-B
Power supply:	Universal power supply, 100 to 240V, 50/60 Hz, 4 x 1.5V AA or 4 x 1.2V NiMH

Type	Description	PK	Cat. No.
pH 7310	Meter only incl. accessories	1	**9.920 100**
pH 7310 Set 2	Meter incl. SenTix® 41and accessories	1	**9.920 101**
pH 7310 Set 4	Meter incl. SenTix® 81 and accessories	1	**9.920 102**
pH 7310P	Meter incl. integrated printer	1	**9.920 104**
pH 7310P Set 2	Meter with integrated printer, incl. SenTix® 41and accessories	1	**9.920 105**
pH 7310P Set 4	Meter with integrated printer, incl. SenTix® 81 and accessories	1	**9.920 106**
pH 7310P BNC	Meter with integrated printer, incl. accessories, BNC input	1	**9.920 107**

2 Benchtop pH meter Education Line EL20

NEW!

2

Experience science with pH bench meters *Mettler-Toledo Online*

- Simple intuitive operation: helps you save time during classes
- Compact, robust benchtop instrument
- Robust, low-maintenance, yet reliable electrodes available in kit version
- Ideal for schools and universities

EL20-Basic: pH instrument incl. operating manual, "Quick guide", power adapter
EL20-Kit: Instrument and accessories as with EL20 Basic, also with LE407 pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets

Please note: These articles are only available for schools and universities.

Specifications

pH-range/accuracy:	0.00 to 14.00/±0.01
mV-range/accuracy:	-1999 to +1999/±1
Temperature range/accuracy:	0.0 to +100.0°C/±0.5°C
Calibration:	Max. 2 points, 3 predefined buffer groups
Display:	LCD
Power supply:	100-240V/50-60Hz, 9V DC
Dimensions (WxDxH):	200 x 175 x 52mm
Weight:	600g

Type	PK	Cat. No.
EL20-Basic	1	**9.704 147**
EL20-Kit	1	**9.704 148**
LE407	1	**9.041 619**
LE409	1	**9.041 620**

1 pH meter FiveEasy™ pH FE20/FiveEasy Plus™ pH FEP20

NEW!

Mettler-Toledo Online

FiveEasy™ and FiveEasy Plus™ pH are compact, easy to use bench meters suitable for a wide range of applications in various areas such as food and beverage, agriculture, industry, water and environment.

- Outstanding functions include a separate reference electrode input, mV/ORP measuring mode and a self-test combined with useful features such as automatic endpoint recognition and calibration with automatic buffer recognition.
- Five self-explanatory operating and function buttons for easy measurement, menu access and calibration recall
- A big, well organised display that simultaneously shows readings, temperature and endpoint criteria along with helpful icons

FE20-Basic: pH instrument incl. operating manual, "Quick guide", power adapter
FE20-Kit: Instrument and accessories as with FE20-Basic, also with LE409 pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets
FE20 ATC Kit: Instrument and accessories as with FE20-Basic, also with LE438 "3-in-1" pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets
FEP20-Basic: pH instrument incl. operating manual, "Quick guide", power adapter
FEP20 ATC Kit: Instrument and accessories as with FEP20-Basic, also with LE438 "3-in-1" pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets

Specifications

Measuring range (Accuracy)	
pH:	0.00 to 14.00 pH (±0.01pH)
mV:	-1999 to 1999 (±1mV)
Temperature:	0°C to 100°C (±0.1°C)
Input:	BNC/RCA, Cinch (NTC)
Temperature compensation:	ATC and MTC
Power supply:	100-240V/50-60Hz/9V DC
Calibration FE20:	2 points, 4 predefined buffer groups
Calibration FEP20:	3 points, 4 predefined buffer groups
FEP20 only:	
Memory:	99 measurements
Interface FEP20:	RS232

Type	PK	Cat. No.
FE20-Basic	1	**6.234 716**
FE20-Kit	1	**6.232 715**
FE20 ATC Kit	1	**9.972 070**
FEP20-Basic	1	**9.773 702**
FEP20 ATC Kit	1	**9.773 703**
FiveEasy AC adaptor (incl. connectors) input 230V, output DC 9V	1	**7.900 515**
FiveEasy electrode arm (complete)	1	**6.235 935**

1 pH/Ion meter SevenCompact™

NEW!

Mettler-Toledo Online

The colour display with its well-designed icons and menu settings in 10 languages makes operation genuinely intuitive. Applications range from routine measurements through sample analysis, data handling and data archiving in compliance with GLP regulations.
Simply innovative design that meets the requirements for a universal, easy-to-operate pH/Ion meter.

- User friendly instrument for demanding users
- Security and high reproducibility thanks to Intelligent Sensor Management (ISM®)
- Improved quality of measurements through professional calibration support
- Comprehensive service package including IQ/OQ
- Integrated USB and RS232 interfaces for data exchange

Supplied with:
S220-Basic: Instrument, electrode holder, protective cover, operating instructions, quick guide, declaration of conformity and test certificate
S220-Kit: As per S220-Basic, additionally with InLab® Expert Pro-ISM, guide to pH measurements and 2 buffer sachets for pH 4.01, 7.00, 9.21 and 10.00.
S220-Bio: As per S220-Kit, but with InLab® Routine Pro-ISM cable kit instead of InLab® Expert Pro-ISM.
S220-U: As per S220-Kit, but with InLab® Versatile Pro instead of InLab® Expert Pro-ISM.

Specifications:

pH-range:	-2.000 to 20.000
pH-relative accuracy:	±0.002
pH-resolution User-definable:	0.001/0.01/0.1
mV-range:	-2000.0 to 2000.0
mV-relative accuracy:	±0.2
mV-resolution User-definable:	0.1/1
Ion-Concentration range:	1.00E-9 to 9.99E+9
Ion-Concentration accuracy:	±0.5%
Temperature range	
MTC:	-30.0 to 130.0°C
ATC:	-5.0 to 130.0°C
Temperature accuracy:	±0.1°C
Display:	4.3 inch, TFT color
Ext. power supply:	9-12V/10W

Type	PK	Cat. No.
S220-Basic	1	**9.704 160**
S220-Kit	1	**9.704 161**
S220-Bio	1	**9.704 162**
S220-U	1	**9.704 163**

1

1 2 pH meter, SevenExcellence™ S400

NEW!

Mettler-Toledo Online

Modular professional system for measurements of pH, redox potential, conductivity, salinity/TDS and ion concentration. Fits up to three modules in any composition and order, can be expanded with additional measurement parameters at any time.
- Large, high resolution 7" colour touch display (capacitive), very clear and easy to operate.
- Modularity and flexibility; up to 3 measuring modules can work in parallel, expansion to 2 or 3 channels possible.
- Universal communication via 2 x USB, Ethernet (LAN) and RS232.
- Plain text user interface in 10 languages with menu guidance in full sentences.
- OneClick™ operation concept to quickly start frequently used functions and preferred methods.
- Storage for user methods.
- Highest security and GxP support (ID protection, sophisticated user management, limits/alarms, integrated radio clock, etc.).
- Intelligent sensor management (ISM®).
- Connection of stirrer, sample changer, PC, barcode reader, keyboard, local or network printer possible.
- Storage up to 20000 data sets (measurements, calibrations, methods).
- 17 predefined, 60 user-defined methods
- 5 point calibration (pH), 8 pre-defined and 20 user-defined buffer groups, incl. temperature chart
- uPlace™ electrode arm with perfect vertical movement.
- Compatible with all METTLER TOLEDO electrodes (Recommended: ISM® electrodes).

S400-Basic: Includes instrument, 1 x pH/mV expansion unit, 2 x blank expansion units, uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate.
S400-Kit: As S400-Basic, but also with InLab® Expert Pro-ISM, guide to pH measurements and 2 buffer sachets for pH 4.01, 7.00, 9.21 and 10.00.
S400-Bio: As S400-Kit but with InLab® Routine Pro-ISM cable kit instead of InLab® Expert Pro-ISM.
S400-ISFET: As S400-Kit but with InLab® 490 instead of InLab® Expert Pro-ISM.

Specifications	**Measuring range // Resolution // Accuracy**
Temperature range MTC/ATC:	-30.0 to 130.0°C // 0.1°C // ±0.1°C
pH:	-2.000 to 20.000 // 0.001/0.01/0.1 // ±0.002
mV:	-2000.0 to 2000.0 // 0.1/1 // ±0.1
Rel. mV:	-2000.0 to 2000.0 // 0.1/1 // ±0.1
ISFET pH:	0.000 to 14.000 // 0.001/0.01/0.1 // ±0.05

Type	PK	Cat. No.
S400-Basic	1	**9.704 350**
S400-Kit	1	**9.704 351**
S400-Bio	1	**9.704 352**
S400-ISFET	1	**9.704 353**

1

2

LLG-pH-Electrodes econony line

The LLG- pH-Electrodes of the economy line are high-quality measurement sensors with a good price/performance ratio. They are equipped with low-resistance UW glass for fast and safe measurement results.
A polymerized solid KCl electrolyte is used in these electrodes. A cartridge-style conduction system, that has proved its worth over the years, keep the electrolyte free of silver ions throughout the life of the sensor, making it less susceptible to electrode poisons.
The LLG- pH-electrodes have a high-quality ceramic diaphragm and the shaft, made from black PPO, has an integrated protection basket.

Areas of application:
- Drinking water monitoring and treatment
- Swimming pools
- Aquariums (also marine aquariums)
- Greenhouse systems
- Lightly polluted service water, process water and wastewater
- Rainwater, pond water and surface water
- Hand-held meters

1

9.040 811

2

9.040 810

Specifications:

Temperature range:	0 to +60°C
pH range:	UW-Glass: pH 0 to 12, briefly pH 14
Dimensions (L x dia.):	120 x 12mm
Electrolyte:	solid electrolyte
Diaphragm:	1 x ceramic

Description	Cable m	PK	Cat. No.	
Electrode with cable (DIN plug)	2	1	**9.040 812**	
Electrode with cable (BNC plug)	2	1	**9.040 811**	1
Electrode without cable (S7 connector head, please order Art. no. 9.040 817 or 9.040 818 separately)	-	1	**9.040 810**	2
Cable, diam. 5mm, applicable up to +75°C, with DIN plug	3	1	**9.040 817**	
Cable, diam. 5mm, applicable up to +75°C, with BNC plug	3	1	**9.040 818**	

3 LLG-pH-Electrodes labobratory line

The LLG- pH-Electrodes of the Laboratory serie are high-quality measurement sensors with a shaft, made from glas. They are equipped with low-resistance UW glass for fast and safe measurement results and with a sturdy platinum tip for safe measurements and easy cleaning of the sensor.
A acrylamide-free KCl gel is used for electrolyte in these electrodes. A cartridge-style conduction system, that has proved its worth over the years, keep the electrolyte free of silver ions throughout the life of the sensor, making it less susceptible to
electrode poisons.
The LLG- pH-electrodes of the Laboratory line have a sturdy ceramic diaphragm in zirconium dioxideglas.

Areas of application:
- surface measurements on paper and textiles
- pharmaceutical and cosmetic applications
- measurements in small sample volumes
- measurements in low-ion media

3

4

9.040 813

Specifications:

Temperature range:	-5 to +80°C
pH range:	UW- Glass: pH 0 to 12, briefly pH 14
Dimensions (L x dia.):	120 x 12mm
Electrolyte:	gel-sealed
Diaphragm:	1 x zircon dioxide

Description	Cable m	PK	Cat. No.	
Electrode with cable (DIN plug)	1	1	**9.040 815**	
Electrode with cable (BNC plug)	1	1	**9.040 814**	
Electrode without cable (S7 connector head, please order Art. no. 9.040 817 or 9.040 818 separately)	-	1	**9.040 813**	4
Connecting cable, diam. 5mm, applicable up to +75°C, with DIN plug	3	1	**9.040 817**	
Connecting cable, diam. 5mm, applicable up to +75°C, with BNC plug	3	1	**9.040 818**	

1

1 pH combination electrodes, gel electrolyte, SenTix®

Basic pH combination electrodes, with gel electrolyte. *WTW*

Type	Connector	Cable m	Int. temp. probe	PK	Cat. No.
SenTix® 20	Plug-in head	-	no	1	**9.040 851**
SenTix® 21	DIN, waterproof	1	no	1	**9.040 872**
SenTix®21-3	DIN, waterproof	3	no	1	**9.040 873**
SenTix® 22	BNC	1	no	1	**9.040 840**
SenTix® 41	DIN, waterproof	1	yes	1	**9.040 876**
SenTix® 41-3	DIN, waterproof	3	yes	1	**9.040 877**
SenTix® 42	BNC	1	yes	1	**9.040 841**

2

2 pH combination electrodes, liquid electrolyte, SenTix®

Standard pH combination electrodes with non-solid electrolytes, length 120mm. *WTW*

Type	Connector	Cable m	Int. temp. probe	PK	Cat. No.
SenTix® 51	DIN + pin plug	1	yes	1	**6.223 092**
SenTix® 60	Plug head	-	no	1	**9.040 842**
SenTix® 61	DIN, watertight	1	no	1	**9.040 881**
SenTix® 62	BNC	1	no	1	**9.040 843**
SenTix® 81	DIN, watertight	1	yes	1	**9.040 886**
SenTix® 82	BNC	1	yes	1	**9.040 844**

3

3 pH combination electrode, liquid electrolyte, SenTix® H with plug head

Precision pH combination electrodes with plug head. Length 165mm. *WTW*

Description	PK	Cat. No.
SenTix® H	1	**9.040 845**

4

4 pH electrodes, SenTix®

pH electrodes with plug head for special applications. *WTW*

Type	Description	PK	Cat. No.
SenTix® Sp	for penetration measurements	1	**9.040 890**
SenTix® Sur	for surface measurements	1	**9.040 891**
SenTix® Mic	pH micro combination electrode	1	**9.040 892**

5

9.040 895

Accessories for combination electrodes

Connection cable for pH electrodes with plug head connection to plugs as indicated. *WTW*

Type	Connector	Cable m	PK	Cat. No.
AS/DIN	DIN	1	1	**9.040 895** 5
AS/DIN-3	DIN	3	1	**9.040 896**
AS/BNC	BNC	1	1	**9.040 897**

6

6 Electrode stand

With flexible electrode holder for two electrodes and temperature sensor. *WTW*

Type	PK	Cat. No.
Electrode stand	1	**9.040 870**

SI Analytics GmbH - Glassmaking tradition in Mainz from the beginning

General Manager Dr. Robert Reining

Sensors and instruments from Mainz

We already express our core competence, namely the production of analytical instruments, with our company name *SI Analytics*. Moreover, SI is representative for the main products of our company: Sensors and instruments.
Now, after some 75 years of experience in glass technology and the development of analytical instruments, our products are still made in Mainz at high standards of innovation and quality.

The basic Titrator TitroLine® 6000

Inventor of the glass electrode

With the development of the glass electrode in 1937, *SCHOTT* laid the foundation for the success of the electrochemical measurement. With innovative electrodes and measuring instruments, piston burettes and titrators, we have since ensured that the electrochemical analysis has become a reliable and indispensable process all over the world.

History

Evolved from *SCHOTT* history with producing electrodes and capillary viscometers, todays SI Analytics expanded its product range with automatic visosity measuring systems, pH meters and titrators from 1973 on.

In 2009, *SCHOTT Instruments GmbH* became the *SI Analytics GmbH*. At the beginning of 2010, *SI Analytics* was acquired by *ITT*. In 2011, the independent publicly traded company *Xylem* evolved from the fluid technology sector of the I*TT Group*, to which SI Analytics belongs.

Xylem is headquartered in White Plains, NY, USA, an is a leading global provider of problem solutions for water issues. This includes the areas of transport, treatment, effective use and analysis. *Xylem* is represented in more than 150 countries by multiple leading brands, and had total sales of 3.8 billion US Dollars in 2012 and employs worldwide more than 12,700 employees.

Product range

SI Analytics manufactures laboratory instruments for the global market. The product range also includes:

- Laboratory instruments and electrodes for pH, LF, Redox, ISE and oxygen
- Armatures
- Titrators and piston burettes
- Spectrophotometers
- Automatic viscometry measuring systems
- Capillary viscometers
- Hotplates and stirrers for laboratory applications

New products

The newly developed titrator group with the devices TitroLine® 6000, TitroLine® 7000 and TITRONIC® 500 not only combines the most recent design with great user-friendliness, but also with flexibility at the highest accuracy and robustness. Recently, this product group was expanded by the titrators TitroLine® 7500 KF for applications according to Karl Fischer and TitroLine® 7500 KF trace for the coulometric water analysis according to Karl Fischer and the multi-purpose titrator TitroLine® 7750.

SI Analytics – A name that stands for quality and tradition!

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si-analytics@xyleminc.com

Application table for the BlueLine pH electrodes

Application	Sample type	BlueLine Type-Nr.	Integrated temperature probe
General Laboratory	General purpose	**14 pH**	YES
		12 pH	NO
	Small sample volume	**16 pH**	NO
	High ionic strength - extreme pH Non-aqueous -solvents, alcohols	**13 pH**	NO
	Titration	**14 pH**	YES
		12 pH	NO
	Harsh environment, rugged use	**54 pH**	YES
	Low maintenance	**24 pH**	YES
		23 pH	NO
Food, Beverage and Dairy	Flat surface - cheese, meat, agar	**27 pH**	NO
	Semi solids - fruit, meat, cheese, jam	**21 pH**	NO
	Titration	**14 pH**	YES
		12 pH	NO
	Juices	**14 pH**	YES
		12 pH	NO
Cosmetics	General purpose	**14 pH**	YES
		12 pH	NO
	Emulsions - cosmetics, oil	**13 pH**	NO
Manufacturing	Flat surface - paper	**27 pH**	NO
	Harsh environment - rugged use, field or plant	**54 pH**	YES
	Emulsions - petroleum, paint	**13 pH**	NO
Education	Economic	**24 pH**	YES
		23 pH	NO
	Research Grade	**13 pH**	NO

1

1 Electrode BlueLine 11 pH

SI Analytics GmbH

pH combination electrode with glass body, Ag/AgCl reference system, cone membrane, platinum junction and screw head.
LB 1A or LB 1BNC cable combination please order separately.
Application: Universal use in chemical, pharmaceutical and food industries.

Specifications:

Temperature range:	-5 to 100°C
pH range:	0 to 14pH
Temperature sensor:	No
Length/ Dia.:	120mm/12mm
Electrolyte:	Liquid, KCl 3 mol/l
Diaphragm:	Platinum
Membrane resistance at 25°C:	250MΩ
Refill hole cover:	Slide

Type	PK	Cat. No.
BlueLine 11 pH	1	**9.041 140**

2

2 Electrode BlueLine 12 pH

SI Analytics GmbH

Generally as BlueLine 11 pH, but with 1 metre x 3mm dia. fixed cable and DIN plug connection.

Type	PK	Cat. No.
BlueLine 12 pH	1	**9.041 141**

1 Electrode BlueLine 13 pH

pH-combination electrode with glass body, Ag/AgCl reference system and plug-in head. *SI Analytics GmbH*
LB 1A or LB 1BNC cable combination please order separately.
Applications: Universal use in chemical, pharmaceutical and food industries.
Ideal for low ionic strength materials (Cremes, Emulsions, Dispersions and Suspensions).

Specifications:

Temperature range:	-5 to 100°C
pH range:	0 to 14pH
Temperature sensor:	No
Length/Dia.:	170mm/12mm
Electrolyte:	Fluid, KCl 3mol/l
Diaphragm:	Ground joint
Membrane resistance at 25°C:	300 MΩ
Refill hole cover:	Slide

Type	PK	Cat. No.
BlueLine 13 pH	1	**9.041 142**

2 Electrode BlueLine 14 pH with temperature sensor

pH-combination electrode with glass shaft, Ag/AgCl reference system and *SI Analytics GmbH*
1 metre x 5mm dia. fixed cable, with DIN and 4mm pin plug connections.
Applications:Universal use in the chemical, pharmaceutical and food industries.

Specifications:

Temperature range:	-5 to 100°C
pH range:	0 to 14pH
Temperature sensor:	NTC 30kΩ
Length/Dia.:	120mm/12mm
Electrolyte:	Fluid, KCl 3mol/l
Diaphragm:	Platinum
Membrane resistance at 25°C:	300MΩ
Refill hole cover:	Slide

Type	PK	Cat. No.
BlueLine 14 pH	1	**9.041 143**
BlueLine 14 pH ID	1	**6.233 381**

3 Electrode BlueLine 15 pH

As BlueLine 14 pH, but with built-in ATC, 1 metre long x 5mm diameter fixed cable, *SI Analytics GmbH*
BNC plug and 4mm banana plug.

Type	PK	Cat. No.
BlueLine 15 pH	1	**9.041 144**
BlueLine 15 pH ID	1	**9.041 155**

4 Micro Electrode BlueLine 16 pH

micro-pH-combination electrode with glass body, Ag/AgCl reference system and *SI Analytics GmbH*
plug-in head. LB 1A or LB 1BNC cable combination please order separately.
Ideal for small sample volumes.

Specifications:

Temperature range:	-5 to 100°C
pH range:	0 to 14pH
Temperature sensor:	No
Length // Dia.:	40/80mm // 12/5mm
Electrolyte:	Fluid, KCl 3mol/l
Diaphragm:	Platinum
Membrane resistance at 25°C:	300MΩ
Refill hole cover:	Slide

Type	PK	Cat. No.
BlueLine 16 pH	1	**9.041 145**

1

1 Spear-tip electrode, BlueLine 21 pH

pH combination electrode with glass body, Ag/AgCl reference system, spear membrane tip and plug head. LB 1 A or LB 1 BNC cable combination please order separately.
Particularly suitable for penetration measurements in semi-solid media.

SI Analytics GmbH

Specifications:

Temperature range:	-5 to + 80°C
pH range:	2 to 13 pH
Temperature sensor:	No
Taper length // Dia. max./min.	65/25mm // 12/5mm
Electrolyte:	Referid®
Diaphragm:	Hole
Membrane resistance at 25°C:	400 MΩ
Refill hole cover:	No refill hole

Type	PK	Cat. No.
BlueLine 21 pH	1	**9.041 146**

2

2 Plastic bodied electrode, BlueLine 22 pH

pH combination electrode with plastic body, Ag/AgCl reference system and plug head LB 1A or LB 1BNC cable combination please order separately.
Use: Universal application in chemical, pharmaceutical and food industries, and in water/waste water plants and for field use.

SI Analytics GmbH

Specifications:

Temperature range:	-5 to 80°C
pH range:	0 to 14pH
Temperature sensor:	No
Length/Dia.:	120mm/12mm
Electrolyte:	Gel
Junction:	Fibre
Membrane resistance at 25°C:	400MΩ
Refill hole cover:	No refill hole

Type	PK	Cat. No.
BlueLine 22 pH	1	**9.041 147**

3

3 Electrode BlueLine 23 pH

As BlueLine 22 pH, but with 1 metre long x 3mm diameter fixed cable and DIN plug.

SI Analytics GmbH

Type	PK	Cat. No.
BlueLine 23 pH	1	**9.041 148**

4

4 Electrode, BlueLine 24 pH, with temperature sensor

pH combination electrode with plastic body, Ag/AgCl reference system and 1 metre fixed cable with 5mm DIN and 4mm pin plug connections.
Applications: Universal use, such as in water supply and effluent treatment departments of chemical, pharmaceutical and food factories and for field use.

SI Analytics GmbH

Specifications:

Temperature range:	-5 to 80°C
pH range:	0 to 14pH
Temperature sensor:	NTC 30kΩ
Length/Ø:	120mm/12mm
Electrolyte:	Gel
Diaphragm:	Fibre
Membrane resistance at 25°C:	400MΩ
Refill hole cover:	No refill hole

Type	PK	Cat. No.
BlueLine 24 pH	1	**9.041 149**

5

5 Electrode, BlueLine 25 pH

As BlueLine 24 pH, but without temperature sensor and with 1 metre long, 3mm dia. fixed cable, BNC plug.

SI Analytics GmbH

Type	PK	Cat. No.
BlueLine 25 pH	1	**9.041 150**

1 Electrode, BlueLine 26 pH, with temperature sensor

As BlueLine 24 pH, but with built-in ATC, 1 m long, 5mm dia. fixed cable, BNC plug and 4mm banana plug. *SI Analytics GmbH*

Type	PK	Cat. No.
BlueLine 26 pH	1	**9.041 151**

2 Electrode, BlueLine 27 pH, for surface measurements

pH-combination electrode with glass body, Ag/AgCl reference system and plug head. *SI Analytics GmbH*
LB 1A or LB 1BNC cable combination please order separately.
Specially suitable for surface measurements.

Specifications:

Temperature range:	-5 to 50°C
pH range:	2 to 13 pH
Temperature sensor:	no
Length/Dia.:	120mm/12mm
Electrolyte:	Referid®
Diaphragm:	Annular space
Membrane resistance at 25°C:	400 MΩ
Refill hole cover:	No refill hole

Type	PK	Cat. No.
BlueLine 27 pH	1	**9.041 152**

3 Redox (ORP) electrodes, BlueLine 31 RX

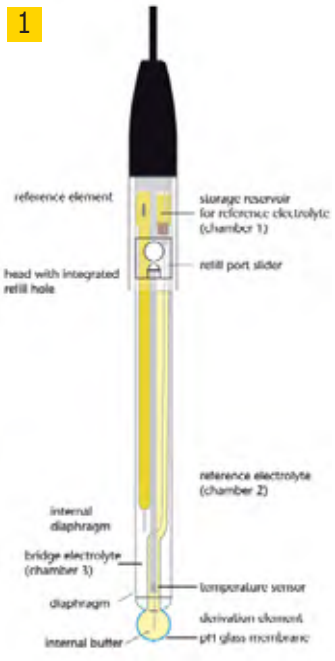
Redox combination electrode with glass body, Ag/AgCl reference system and plug head. *SI Analytics GmbH*
LB 1A or LB 1BNC cable combination please order separately.
Application: Universal applications in chemical and food industries.

Specifications:

Temperaturbereich:	-5 to 100°C
Sensor:	Pt disc
Temperature sensor:	No
Length/Dia.:	120mm/12mm
Electrolyte:	liquid, KCl 3mol/l
Junction:	Ceramic
Membrane:	Platinum
Refill hole cover:	Slide

Type	PK	Cat. No.
BlueLine 31 RX	1	**9.041 153**

1



1 2 Electrodes, IoLine

pH electrodes for the most demanding measuring tasks — *SI Analytics GmbH*

The IoLine electrode family with iodine/iodide reference system has been developed to meet the most demanding laboratory measurement tasks. These electrodes are metal ion free and hence ideally suited for measurements that may cause sample contamination by such ions (e.g. silver ions) and for pH measurements in Tris buffers too.

Advantages of IoLine Electrodes over classical Ag/AgCl reference systems are notably by:
- longer service life thanks to a patented three-chambers Iodine reservoir in the reference electrode.
- fast reaction, precise measurement and clearly improved stability of measurement values, especially with changing temperatures or at temperatures other than the calibration temperature. This is due to the lower temperature sensitivity of the iodine/iodide reference potential.
- free choice of the bridge electrolyte, hence optimum adaptation to the sample by double electrolyte system.

The electrodes are available in different membrane glass shapes and types and with different plugs to ensure that the user gets the instrument best suited to his needs. ID versions are available for use with Schott Instruments' ProLab line of high-end laboratory meters.

IoLine electrodes are the right choice for the most critical pH measurements in research and quality control in pharmacy, biotechnology or food industry.

Specifications:

Temp. range	-5 to +100°C
Zero point	pH = 7.00 ±0.25
pH range	0 to 14
Shaft material	Glass
Diaphragm:	Platinum

2

Type	Length mm	PK	Cat. No.
IoLine-pHT-A 120-MF*	120	1	**9.041 163**
IoLine-pHT-A 170-MF*	170	1	**9.041 164**
IoLine-pHT-A 120-MF-DIN	120	1	**9.041 165**
IoLine-pHT-A 120-MF-DIN N**	120	1	**9.041 166**
IoLine-pHT-A 170-MF-DIN N**	170	1	**9.041 167**

*S7
**banana plug

3

3 ID-Electrodes for pH measurement

SI Analytics GmbH

Specifications

Shaft material:	glass
Zero point:	pH = 7.00 ±0.25
pH range:	0 to 14
Fixed cable:	1m long, with DIN (BNC plug available on request)

Type	PK	Cat. No.
A 7780 1M-DIN-ID	1	**6.235 995**
A 157 1M-DIN-ID	1	**9.041 156**

4

4 Cable combinations, LB 1 A and LB 1 BNC

For BlueLine pH electrodes, ScienceLine and IoLine. — *SI Analytics GmbH*

Type	PK	Cat. No.
LB1-A	1	**9.041 303**
LB1-BNC	1	**9.041 304**

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9.041 160

6

9.041 217

7

Combination pH Electrodes

SI Analytics GmbH

Type	PK	Cat. No.
Combination electrode N 6000 A	1	**9.041 160** 5
Combination pH electrode N 1042 A	1	**9.041 217** 6

7 Metal (ORP) electrodes, ScienceLine

SI Analytics GmbH

Type	PK	Cat. No.
Redox electrode Pt 6280	1	**9.041 207**
Electrode Ag 6280	1	**9.041 211**

1 pH-Electrodes ScienceLine

With plug head, glass shaft, ceramic diaphragm, 3mol/l KCl electrolyte, 12mm dia, spherical membrane, pH range: 0 to 14. *SI Analytics GmbH*

Type	Temp. range °C	Length mm	Membrane	PK	Cat. No.
N 6280, with plug head	-5 ... +100	120	N-glass	1	**9.041 117**
N 6180	-5 ... +100	170	N-glass	1	**9.041 180**
N 42 A	-5 ... +100	120	A-glass	1	**9.041 182**

1

2 SCHOTT® Instruments pH-combination electrodes

With plug head, glass shaft, platinum diaphragm, 3mol/l KCl electrolyte, Silamid® reference system and 12mm dia. spherical membrane. *SI Analytics GmbH*

Type	Temp. range °C	Length mm	Membrane	PK	Cat. No.
N 61	-5 ... +100	170	A-glass	1	**9.041 100**
H 61	+10 ... +100	170	H-glass	1	**9.041 105**
N 62	-5 ... +100	120	A-glass	1	**9.041 110**
H 62	+10 ... +100	120	H-glass	1	**9.041 112**
N 64	-5 ... +100	170	A-glass	1	**9.041 120**

2

pH electrodes InLab® Routine Series

NEW!

Combined pH electrode, glass shaft, ARGENTHAL™ reference with silver-ion trap, detachable cable. *Mettler-Toledo Online*

Specifications:

Temperature range:	0 to +100°C
pH range:	0 - 14
Electrode Dia.:	12 mm
Electrolyte:	Liquid, KCl 3 mol/l
Diaphragm:	ceramic
Membrane resistance at 25°C:	< 600 MΩ

Description	Shaft length min. mm	Temperature sensor	Electrode head	PK	Cat. No.
InLab®Routine	120	-	S7	1	**9.041 450** 3
Set InLab®Routine + DIN cable	120	-	S7	1	**9.041 451**
Set InLab®Routine + BNC cable	120	-	S7	1	**9.041 452**
InLab®Routine Pro	120	NTC 30 kΩ	MultiPin™	1	**9.041 454**
Set InLab®Routine Pro + BNC/Cinch cable	120	NTC 30 kΩ	MultiPin™	1	**9.041 455**
InLab®Routine Pt1000	120	Pt1000	MultiPin™	1	**9.041 456** 4
InLab®Routine Pro-L	170	Pt1000	MultiPin™	1	**9.041 457**
InLab®Routine Pro ISM	120	NTC 30 kΩ	MultiPin™	1	**7.629 195**
InLab®Routine Pro ISM Set	120	NTC 30 kΩ	MultiPin™	1	**9.041 458**

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9.041 450

9.041 456

5 pH electrodes InLab® Expert Pro

NEW!

pH-combination electrode with chemically resistant PEEK shaft, ARGENTAL™ reference system. Fixed BNC/RCA (Cinch) cable. InLab® Expert Pro ISM for SevenCompact and SevenExcellence. *Mettler-Toledo Online*

Specifications

Temperature range:	0 to +100°C
pH range:	0 - 14
Temperature sensor:	NTC 30kΩ
Length/Diam.:	120mm/12mm
Electrolyte:	XEROLYT® polymer
Diaphragm:	open junction
Membrane resistance at 25°C:	< 250MΩ

Type	PK	Cat. No.
InLab® Expert Pro	1	**9.041 506**
InLab® Expert Pro ISM	1	**9.041 508**

5

Application table for Electrodes Mettler

Common Industries	Common Application(s)	InLab® Electrode Model	Electrode Cat. No.	Cable Cat. No.	Cables available for other manufacturers meters	Temp. Sensor
General, Cosmetic, Food, Beverage, Agriculture, Paint	Aqueous samples, TRIS, Gels/Soaps/Shampoo, Dairy, Soft Drinks, Beer & Wine, Fertilizer, Soil, Suspensions/Emulsions, Water Based Paint	Expert Pro	9.041 506	--	No	Yes
General, Cosmetic, Water, Food, Beverage, Chemical	Aqueous samples, TRIS, Gels/Soaps/Shampoo, Drinking Water, Soft Drinks, Beer & Wine, Jam/Preserves, Galvanic Baths, Corrosive/Hot Acids & bases,	Routine Pro	9.041 454	9.041 757	Yes	Yes
General, Cosmetic, Water, Food, Beverage, Chemical	Aqueous samples, TRIS, Gels/Soaps/Shampoo, Drinking Water, Soft Drinks, Beer & Wine, Jam/Preserves, Galvanic Baths, Corrosive/Hot Acids & bases,	Routine	9.041 450	9.041 759	Yes	No
Pharmaceutical/Biological, Cosmetic, Water, Food, Beverage, Paint, Chemical	Aqueous samples, TRIS, Serums/Gastric Juices, Medicinal formulas, Enzyme solutions, Gels/Soaps/Shampoo, Waste Water, Drinking Water, Dairy, Dough/Cocoa, Suspensions/Emulsions, Water Based Paint, Oily Samples, Varnish/Glue, Colorants/Dyes, Galvanic Baths, Corrosive/Hot Acids & bases, Hydrocarbons	Science Pro	9.041 471	9.041 757	Yes	Yes
Pharmaceutical/Biological, Cosmetic, Water, Food, Beverage, Paint, Chemical	Aqueous samples, TRIS, Serums/Gastric Juices, Medicinal formulas, Enzyme solutions, Gels/Soaps/Shampoo, Waste Water, Drinking Water, Dairy, Dough/Cocoa, Suspensions/Emulsions, Water Based Paint, Oily Samples, Varnish/Glue, Colorants/Dyes, Galvanic Baths, Corrosive/Hot Acids & bases, Hydrocarbons	Science	9.041 470	9.041 759	Yes	No
Pharmaceutical/Biological, Cosmetic	Aqueous samples, TRIS, Vials/NMR Samples, Serums/Gastric Juices, Samples in Test Tubes, Medicinal formulas, Enzyme solutions, Cosmetic Creams/Mascara	Micro Pro	9.041 562	9.041 757	Yes	Yes
Pharmaceutical/Biological, Cosmetic	Aqueous samples, TRIS, Vials/NMR Samples, Serums/Gastric Juices, Samples in Test Tubes, Medicinal formulas, Enzyme solutions, Cosmetic Creams/Mascara	Micro	9.041 560	9.041 759	Yes	No
Pharmaceutical/Biological, Cosmetic, Water, Food, Beverage, Paint	Aqueous samples, TRIS, Serums/Gastric Juices, Samples in Test Tubes, Medicinal formulas, Enzyme solutions, Gels/Soaps/Shampoo, Cosmetic Creams/Mascara, Natural/Synthetic Resins, Dairy, Water Based Paint, Oily Samples	Semi Micro	9.041 565	9.041 759	Yes	No
Pharmaceutical/Biological, Cosmetic, Food	Aqueous samples, TRIS, Medicinal formulas, Enzyme solutions, Cosmetic Creams/Mascara, Butter, Yoghurt, Cheese, Ice Cream, Meats, Fruit/Vegetables, Dough/Cocoa	Solids	9.041 553	9.041 759	Yes	No
Pharmaceutical/Biological, Cosmetic, Textile, Paper	Gelled Agars, Skin, Leather, Textiles/Prints, Paper, Laminates, Drop Size Samples	Surface	9.041 557	9.041 759	Yes	No

For more information please visit www.electrodes.net

1 pH electrode InLab® Science

NEW!

pH-combination electrode with glass shaft, ARGENTAL™ reference system with Ag^+ trap and S7 electrode head. Cable - please order separately.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +100°C
pH range:	0 - 12
Temperature sensor:	no
Length/Diam.:	120mm/12mm
Electrolyte:	Fluid, KCl 3mol/l
Diaphragm:	movable glass sleeve
Membrane resistance at 25°C:	< 600MΩ

Type	PK	Cat. No.
InLab® Science	1	**9.041 470**

2 pH electrode InLab® Science Pro

NEW!

pH-combination electrode with glass shaft, ARGENTAL™ reference system with Ag^+ trap and MultiPin™ electrode head. Cable - please order separately.
InLab® Science Pro ISM for SevenCompact and SevenExcellence.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +100°C
pH range:	0 - 12
Temperature sensor:	NTC 30kΩ
Length/Diam.:	170mm/12mm
Electrolyte:	Fluid, KCl 3mol/l
Diaphragm:	movable glass sleeve
Membrane resistance at 25°C:	< 600MΩ

Type	PK	Cat. No.
InLab® Science Pro	1	**9.041 471**
InLab® Science Pro ISM	1	**9.041 472**

3 pH electrode InLab® Micro

NEW!

pH-combination electrode with glass shaft, ARGENTAL™ reference system with Ag^+ trap and S7 electrode head. Cable - please order separately.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +80°C
pH range:	0 - 14
Temperature sensor:	no
Length/Diam.:	60mm/3mm
Electrolyte:	Fluid, KCl 3mol/l
Diaphragm:	Ceramic type Z (pore size 0.9µm)
Membrane resistance at 25°C:	< 1000MΩ

Type	PK	Cat. No.
InLab® Micro	1	**9.041 560**

4 pH electrode InLab® Semi-Micro

NEW!

pH-combination electrode with glass shaft, ARGENTAL™ reference system and S7 electrode head. Cable - please order separately.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +100°C
pH range:	0 - 12
Temperature sensor:	no
Length/Diam.:	100mm/6mm
Electrolyte:	XEROLYT®EXTRA Polymer
Diaphragm:	open junction
Membrane resistance at 25°C:	< 300MΩ

Type	PK	Cat. No.
InLab® Semi-Micro	1	**9.041 565**

1

1 pH electrode InLab® Micro Pro

NEW!

pH-combination electrode with glass shaft, ARGENTAL™ reference system with Ag^+ trap and MultiPin™ electrode head. Cable - please order separately.
InLab® Micro Pro ISM for SevenCompact and SevenExcellence.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +100°C
pH range:	0 - 14
Temperature sensor:	NTC 30kΩ
Length/Diam.:	130mm/5mm
Electrolyte:	Fluid, KCl 3mol/l
Diaphragm:	Ceramic
Membrane resistance at 25°C:	< 300MΩ

Type	PK	Cat. No.
InLab® Micro Pro	1	**9.041 562**
InLab® Micro Pro ISM	1	**6.243 633**

2

2 pH combination electrode InLab® Solids

NEW!

With spear-tip membrane. With glass shaft, Argenthal™ reference system and S7 plug head. Cable - please order separately.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +80°C
pH range:	0 - 11
Temperature sensor:	no
Length/Diam.:	25mm/6mm
Electrolyte:	XEROLYT® PLUS polymer electrolyte, non-refillable
Diaphragm:	open junction
Membrane resistance at 25°C:	< 250 MΩ

Type	PK	Cat. No.
InLab® Solids	1	**9.041 553**

3

3 pH electrode InLab® Surface

NEW!

pH-combination electrode with polysulfone shaft, Ag/AgCl reference system and S7 electrode head. Cable - please order separately.

Mettler-Toledo Online

Specifications

Temperature range:	0 to +50°C
pH range:	1 - 11
Temperature sensor:	no
Length/Diam.:	100mm/6mm
Electrolyte:	Fluid, KCl 3mol/l, AgCl saturated
Diaphragm:	Safelock™ ABS ring
Membrane resistance at 25°C:	< 800MΩ

Type	PK	Cat. No.
InLab® Surface	1	**9.041 557**

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9.041 757

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9.041 758

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9.041 759

Connection cables

NEW!

For connecting pH electrodes with built-in temperature sensors and MultiPin plug head or with S7 plug head (without temperature sensor) as indicated.
Cables suitable for connection of Mettler Toledo electrodes to a variety of other manufacturers meters.
Cat. No. 9.041 757, 7.629 194 (ISM electrodes) and 9.041 759 should be used for connection to Mettler Toledo meters.

Mettler-Toledo Online

Length m	Connector	Electrode head	PK	Cat. No.
1.2	DIN + 4 mm	MultiPin™	1	**9.041 754**
1.2	BNC + 4 mm	MultiPin™	1	**9.041 755**
1.2	DIN + Cinch	MultiPin™	1	**9.041 756**
1.2	BNC + Cinch	MultiPin™	1	**9.041 757** 4
2.5	BNC + Cinch	MultiPin™	1	**9.041 765**
1.2	Lemo 00 + 2 x 4 (Metrohm)	MultiPin™	1	**9.041 760**
1.8	BNC + Cinch - ISM	ISM-MultiPin™	1	**7.629 194**
1.2	DIN	S7	1	**9.041 758** 5
1.2	BNC	S7	1	**9.041 759** 6
1.2	RM	S7	1	**9.041 761**
5.0	-	S7	1	**9.041 764**
1.2	-	S7	1	**6.700 357**

E & OE.
www.wenk-labtec.com

1 LLG-Buffer solution

NEW!

Tested and certified at 20°C. Provided with label that gives the pH value at different temperatures.
Tolerance ±0.02 pH. Supplied in PE-HD containers. Traceable to NIST (SRM). Temperature dependence data is printed on the label as well as batch numbers and expiry dates. Buffers have a 24 month shelf life from date of manufacture.

pH-value at 20 °C	Capacity ml	Buffer	PK	Cat. No.
4.00 ±0.02	1000	citrate	1	**9.041 367**
7.00 ±0.02	1000	phosphate	1	**9.041 368**
10.00 ±0.02	1000	borate	1	**9.041 369**

1

2 Technical pH buffer solutions

Reagecon

Colour coded. Tested and Certified at 25°C. Provided with label that gives the pH value at different temperatures. Tolerance ±0.02 pH.
These buffer solutions are suitable for use where very accurate measurements are required.
All buffers are supplied with a detailed Certificate of Analysis which outlines traceability to N.I.S.T (the N.I.S.T SRM(s) Lot No. is stated on the certificate). Temperature dependence data is printed on the label as are lot numbers and expiry dates. This item has a 24 month shelf life from date of manufacture.

pH-value at 25 °C	Capacity ml	Colour	PK	Cat. No.
2.0	250	Red	1	**9.040 949**
4.01	250	Red	1	**9.040 950**
4.01	500	Red	1	**6.206 907**
4.01	1000	Red	1	**9.040 955**
7.02	250	Yellow	1	**6.240 744**
7.02	500	Yellow	1	**6.229 762**
7.02	1000	Yellow	1	**6.238 677**
9.21	250	Blue	1	**9.040 951**
10.00	250	Blue	1	**6.240 745**
10.00	1000	Blue	1	**6.238 676**

2

3 Technical buffer solutions

Identified by colour-coded labels. *WTW*

Type	Capacity ml	pH-value	PK	Cat. No.
STP 4	50	4.01	1	**9.040 734**
TEP 4	1000	4.01	1	**9.040 722**
STP 7	50	7.00	1	**9.040 735**
TEP 7	1000	7.00	1	**9.040 723**
TEP 10	1000	10.00	1	**9.040 724**
TEP 10 TRACE	1000	10.01*	1	**9.040 725**
TPL 4	250	4.01	1	**9.040 727**
TPL 7	250	7.00	1	**9.040 728**
TPL 10	250	10.00	1	**9.040 729**

* For handheld meters 315i, 330i, 340i, 350i, 3110, 3210, 3310 and Inolab® versions from 2004 onwards

3

4 pH buffer solutions

SI Analytics GmbH

Without colour coding. Stated pH values at 25°C. Available in 250ml containers.
Shelf life approx. 2 years, accuracy ±0.02 pH. Calibration set for pH measurement.
Set contains 20 x 17ml ampoules filled with pH 4.00, 7.00 and 10.00 solutions (at 25°C).

Type	Capacity ml	Colour	PK	Cat. No.
pH 4,00	250	clear	1	**9.041 043**
pH 7,00	250	clear	1	**9.041 045**
pH 10.01	250	clear	1	**9.041 048**
Set	17	3 x 20 x 17 ml ampoules	1	**9.041 081**

4

5 pH buffer solutions

SI Analytics GmbH

Colour coded. pH values at 25°C. Provided with label that gives the pH value at different temperatures. Supplied in 250ml containers. Tolerance ±0.02 pH.

Type	Capacity ml	Colour	PK	Cat. No.
pH 4.01	250	yellow	1	**9.041 050**
pH 7.00	250	green	1	**9.041 051**
pH 10.01	250	orange	1	**9.041 052**

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1

1 pH buffer solutions

Clear, Colourless Solutions. Tested and Certified at 20°C, produced in accordance with NIST standard (NBS). Available in 500ml or 1L containers. Accuracy ±0.01 pH.

Reagecon

pH-value at 20 °C	Capacity ml	PK	Cat. No.
pH 2.00	500	1	**6.228 059**
pH 3.50	1000	1	**7.632 597**
pH 4.00	500	1	**9.040 911**
pH 4.00	1000	1	**9.040 912**
pH 6.00	500	1	**6.203 561**
pH 6.00	1000	1	**6.321 027**
pH 6.80	500	1	**6.206 693**
pH 6.865	500	1	**7.900 066**
pH 7.00	500	1	**9.040 913**
pH 7.00	1000	1	**9.040 914**
pH 9.00	500	1	**6.225 161**
pH 9.00	1000	1	**6.206 691**
pH 10.00	500	1	**9.040 915**
pH 10.00	1000	1	**9.040 916**
pH 12.00	500	1	**6.234 641**

2

3

2 3 pH buffer solutions (Coloured)

Coloured solutions. Tested and Certified at 20°C. Formulated in accordance with NIST standards (NBS). Supplied in 500ml, 1L or 5L containers. Tolerance ±0.01 pH.

Reagecon

pH-value at 20 °C	Capacity ml	Colour	PK	Cat. No.
pH 4.00	500	Red	1	**9.040 920**
pH 4.00	1000	Red	1	**9.040 921**
pH 4.00	5000	Red	1	**9.040 922**
pH 7.00	500	Yellow	1	**9.040 923**
pH 7.00	1000	Yellow	1	**9.040 924**
pH 7.00	5000	Yellow	1	**9.040 925**
pH 10.00	500	Blue	1	**9.040 926**
pH 10.00	1000	Blue	1	**9.040 927**
pH 10.00	5000	Blue	1	**9.040 928**

4

4 pH buffer solutions with colour code, with/without certificate

Colored buffer solutions, standardized against NIST references, accuracy ±0.01 pH at 25°C, 500ml bottles with label that indicates correlation between pH-value and temperature.

Hanna

pH-value at 25 °C	Description	PK	Cat. No.
pH 7.01	with certificate	1	**6.225 206**
pH 4.01	with certificate	1	**6.225 208**
pH 10.01	with certificate	1	**6.225 207**
pH 7.01	without certificate	1	**6.053 384**
pH 4.01	without certificate	1	**6.053 383**
pH 10.01	without certificate	1	**6.090 412**

5

5 Standard buffer solutions

To DIN/NIST. Supplied in 250ml bottles.

WTW

pH-value at 25 °C	Tolerance	PK	Cat. No.
4.01	± 0,02 pH	1	**9.040 744**
6.87	± 0,02 pH	1	**9.040 746**
9.18	± 0,02 pH	1	**9.040 749**

1 Buffer solutions, sterile

Steam sterilised. Individually batch numbered. Without preservatives. *SI Analytics GmbH*

Type	Capacity	PK	Cat. No.
pH 4.01	250ml DURAN® bottle	1	**9.041 004**
pH 6.87	250ml DURAN® bottle	1	**9.041 007**
pH 9.18	250ml DURAN® bottle	1	**9.041 009**

Other buffer solutions available on request.

1

2 Calibration Kits for pH meters

20ml sachets. Without certificate of analysis . *Hanna*

Description	PK	Cat. No.
Calibration Kit pH 7.01 & 4.01 (5 x 20ml each)	1	**9.773 932**
Calibration Kit pH 7,01 & 10,01 (5 x 20ml each)	1	**9.773 934**

2

3 pH buffer solutions in sachets with certificate of analysis

One 20ml sachet is sufficient for each calibration. Sachets are well sealed and protected against light. Single use only, so no risk of contamination. Accuracy: ±0.01 pH at 25°C. *Hanna*
The outer box contains a certificate of analysis, showing the date of production and Lot Nr. (Expiry date).
The solutions are produced again NIST standards.

pH-value at 25 °C	PK	Cat. No.
pH 4.01	25	**6.803 609**
pH 7.01	25	**6.803 610**
pH 10.01	25	**6.803 611**

3

4 Storage and cleaning solutions for electrodes

Hanna

Type	PK	Cat. No.
Storage Solution, 500ml	1	**9.773 987**
Cleaning solution, general purpose, 500ml	1	**6.080 217**
Cleaning solution for proteins, 500ml	1	**6.223 522**

4

5 Cleaning and storage solutions for pH-probes

Reagecon

Type	Capacity ml	PK	Cat. No.
Pepsin / HCL, for cleaning media containing protein	500	1	**9.040 940**
Thiourea / HCL, for cleaning media containing sulphide	500	1	**9.040 941**
Organic cleaning solution	500	1	**9.040 942**
Regeneration solution	100	1	**9.040 943**
Storage solution	100	1	**9.040 945**
Storage solution	500	1	**9.040 944**

5

6 Regeneration solution and storage solution

For pH-probes. *SI Analytics GmbH*

Type	Capacity ml	PK	Cat. No.
Regeneration solution / Storage solution	250	1	**9.041 034**

6

1

1 Calibration and maintenance solution set SORT/K

Supplied in box with three 250ml bottles of pH 4.01, 6.87, 9.18 buffer solutions, pepsin cleaning solution and KCl filling solution 3mol/l.

WTW

Type	PK	Cat. No.
SORT/K	1	**9.040 760**

2

2 Pepsin cleaning solution PEP/pH

DIN. Supplied in bottles of 250ml.

WTW

Type	PK	Cat. No.
Pepsin cleaning solution	3	**9.040 796**

3

3 LLG Electrolyte solutions, KCL

NEW!

Potassium chloride electrolyte for pH electrodes - Filling solution for reference electrolyte.

Type	PK	Cat. No.
3mol/l, 1000ml	1	**9.041 370**
3mol/l, 250ml	1	**9.041 371**
3mol/l, (AgCl saturated.), 250ml	1	**9.041 372**

4

4 KCL electrolyte solutions

For refilling or replacing reference electrolyte. Supplied in 250ml bottles.

Reagecon

Type	PK	Cat. No.
3 mol/l KCL, free from silver ions, 250ml	1	**9.040 957**
3 mol/l KCL, saturated with AgCl, 250ml	1	**9.040 958**

5

5 KCL electrolyte solutions

For refilling or replacing reference electrolyte. Supplied in 250ml DURAN® bottles.

SI Analytics GmbH

Type	PK	Cat. No.
2mol/L KNO_3 + 0.001mol/l KCI for Ag-probes	1	**9.041 072**
3 mol/l KCl	1	**9.041 092**
3 mol/l KCI, Ag/AgCl saturated	1	**9.041 036**
4.2 mol/l KCl	1	**9.041 033**

6

6 Redox buffer solution

For testing ORP electrodes. 427mV, pH7.
Supplied in pack of 250ml.

WTW

Type	PK	Cat. No.
Redox	1	**9.040 782**

1 Conductivity testers, DIST 3 and DIST 4

Pocket measuring device with digital display for testing the conductivity in drinking water and industry *Hanna*

DIST 3:
suitable for measuring drinking water, reverse osmosis monitoring and in the laboratory.

DIST 4:
ideal for measurements required in industry, horticulture, sewage, cooling towers.

Specifications:

Measuring range:	DIST 3: 0 to 1990µS
	DIST 4: 0 to 19.90mS
Resolution:	DIST 3: 1µS/cm
	DIST 4: 0.01mS
Accuracy:	±2% measuring range
Batteries:	4 x 1.5V button cells (MP 675H)
Dimensions:	175 x 41 x 23mm
Weight:	78g

Type	PK	Cat. No.
DIST 3	1	**9.704 010**
DIST 4	1	**9.704 014**

1

2

2 Conductivity testers, Dist 5 and Dist 6

Watertight pH-/ conductivity-/ TDS- /°C-testers. Simultaneous display of conductivity and/or TDS and temperature values. Automatic temperature compensation for highest measuring accuracy. User selection of temperature coefficient enables use in alkaline and acidic media. Stability indicator prevents incorrect measurements *Hanna*

Specifications:

Measuring range:	DIST 5 : 0 to 3990mS (0 to 2000ppm)
	DIST 6 : 0 to 20.00mS (0 to 10.00ppm)
Temperature range:	0.0 to 60.0°C
Resolution EC/TDS:	±2% in each measuring range
Resolution:	±0.5°C
Batteries:	4 x 1.5V button cells
Operating temp. range:	0 to 50.0°C
Weight:	100g

Type	PK	Cat. No.
DIST 5	1	**9.704 012**
DIST 6	1	**9.704 013**

1

1 Conductivity meters HI 99300/HI 99301

Hanna

- Waterproof conductivity meters with microprocessor
- Conductivity (or TDS value) and temperature are displayed simultaneously
- Automatic temperature compensation from 0 to 60.0°C
- Temperature compensation coefficient is adjustable from 0 to 2.4%/°C
- Automatic one point calibration with conductivity solution 1413µS (HI 99300) or 12.880µS (HI 99301)

Supplied with:
Conductivity probe with 1 meter cable, 4x 1.5V AAA alkaline batteries and transport case

Specifications:

Measuring range/Resolution EC:	
HI 99300:	0 to 3999µS/1µS
HI 99301:	0.00 to 20.00mS/0.01mS
Measuring range/Resolution TDS:	
HI 99300:	0 to 2000ppm (mg/l)/1ppm (mg/l)
HI 99301:	0.00 to 10.00ppt (g/l)/0.01ppt (g/l)
Accuracy:	±2% full scale
Measuring range/Resolution T:	0.0 to 60°C/±0.5°C
Battery:	4 x 1.5V
Dimensions (L x W x H):	143mm x 80mm x 38mm
Weight:	210g

Type	PK	Cat. No.
HI 99300	1	**7.618 482**
HI 99301	1	**6.240 795**
Spare electrode HI 76306 for HI 99300 / HI 99301	1	**6.241 639**

2

2 Conductivity meter HI 8733

Hanna

- Multi range conductivity meter for laboratory use
- Can be used for various applications from deionized water to brine
- Automatic temperature enables highest accuracy
- For various strong acids or bases the temperature coefficient can be adjusted between 0% and 2.5% per °C
- Instrument is supplied with 4-ring, potentiometric probe for all 4 ranges

Specifications:

Ranges/Resolution:	0.00 to 199µS/0.1 µS 0 to 1999µS/1 µS 0 to 19.99mS/0.01mS 0 to 199.9mS/ 0.1mS
Accuracy:	±1% Full Scale
Temperature compensation:	automatic from 0 to +50°C
Calibration:	manual single point trough trimmer
Battery:	1 x 9 Volt
Operating temp. range:	0 to +50°C
Dimensions:	164mm x 76mm x 45mm
Weight:	500g

Type	PK	Cat. No.
HI 8733	1	**9.704 016**
Spare probe HI 76302W	1	**6.200 643**

1 Conductivity meter HI 9033

Waterproof housing, perfect for laboratory and field work. *Hanna*

- 4 different ranges from 0 to199.9mS can be selected by simply pressing a button
- automatic temperature compensation grants highest accuracy
- manual calibration at 1 point trough trimmer

Supplied in a transport case, complete with 4 ring conductivity probe with 1 metre cable, calibration screwdriver and battery.

Specifications:

Measuring range/Resolution:	0.0 to 199.9µS/0.1µS 0 to 1999 µS/1 µS 0 to 19.99 mS/0.1 mS 0 to 199.9 mS/1 mS
Accuracy:	±1% full scale
Temperature compensation:	automatically from 0 to 50°C
Operating range:	0 to 50°C
Battery:	1 x 9V
Weight:	1kg (incl. transport case)

Type	PK	Cat. No.
HI 9033	1	**6.095 234**
Spare probe HI 76302W	1	**6.200 643**

1

2 Conductivity meter SD320CON

NEW!

Electrochemistry instrument for the determination of Conductivity, Resistance, Salinity and TDS. *AQUALYTIC*

- Rugged, water resistant (IP65), water proof plug connections
- Use of different electrodes
- Data Logger and alarm function
- GLP features (Good Laboratory Practice)
- Interface for Data transfer
- Large backlit display
- Low power consumption, long battery shelf life

Delivery content:
Hand-held meter complete in case with 4-pol graphite electrode (diameter 12 mm) measuring range up to 200 ms/cm, batteries, instruction manual.

Specifications

Conductivity:	0.0 ... 500.0µS/cm (cell constant 1/cm) 0.000 ... 5.000µS/cm (cell constant 0.01/cm) 0.0 ... 500.0mS/cm (cell constant 1/cm) 0 ... 5000µS/cm (cell constant 0.01/cm) 0 ... 1000mS/cm (cell constant 1/cm)
Temperature:	-5.0 ... +150.0°C
TDS:	0.000 ... 10000mg/l*
Resistance:	0.0010kOhm cm... 50.00MOhm cm*
Salinity:	0.0 ... 70.0g/kg (PSU)
Protection class:	IP65
Power supply:	2 x AAA batteries (incl.)

Type	PK	Cat. No.
SD320CON	1	**9.699 292**

*depends on cell constant

2

1

1 Portable conductivity meter Education Line EL3

NEW!

Experience science with portable conductivity meters

Mettler-Toledo Online

- Simple intuitive operation helps you save time during classes
- Ideally suited for classroom and field-based measurements alike
- Robust, low-maintenance, yet reliable electrodes available in kit version

EL3-Basic: Conductivity instrument incl. electrode clip, wrist strap, operating manual, "Quick guide", 4 x batteries
EL3-Kit: Instrument and accessories as with EL3 Basic, also with LE703 conductivity sensor, IP54 connection caps, 2 x 1413 µS/cm and 2 x 12.88 mS/cm standard sachets
EL3-Fieldkit: Instrument and accessories as for EL3 Kit, also with carry bag incl. 4 sample bottles

Please note: These articles are only available for schools and universities.

Specifications

Measuring range/accuracy:	
Condictivity:	0.1µS/cm to 199.9mS/cm/±0.5%
Temperature:	0.0°C to +100°C/±0.3°C
Calibration:	1-point, 3 predefined standards
Free disk space:	30 data sets
Display:	LCD
Batteries:	4 x AAA
Dimensions (WxDxH):	169 x 82 x 36mm
Weight:	180g (without batteries)

Type	PK	Cat. No.
EL3-Basic	1	**9.704 003**
EL3-Kit	1	**9.704 004**
EL3-Fieldkit	1	**9.704 006**
Spare elektrode LE703	1	**9.041 621**

2

2 Conductivity meter FiveGo™ FG3

NEW!

FiveGo Conductivity is a handy, portable meter ideal for those who require rapid and reliable results on the go. This meter is suitable for a wide range of applications in various areas such as food and beverage, agriculture, industry, water and environment

Mettler-Toledo Online

- Outstanding functions such as storage capacity for 30 measurements, TDS and salinity modes and IP54 ingress protection combined with features such as automatic endpoint, 1 point calibration, linear temperature compensation and selectable reference temperatures
- Five self-explanatory buttons for starting and ending a measurement, for saving and accessing measurement results and for reviewing the latest calibration data.
- A big, well organised display simultaneously showing readings, temperature, endpoint criteria and various helpful icons

FG3-Basic: Conductivity instrument incl. electrode clip, wrist strap, operating manual, "Quick guide", 4 x batteries
FG3-Kit: Instrument and accessories as with FG3-Basic, with LE703 conductivity sensor, IP54 connection caps, 2 x 1413 iS/cm and 2 x 12.88mS/cm standard sachets
FG3-Fieldkit: Instrument and accessories as for FG3-Kit, with carry bag incl. 4 sample bottles

Specifications:

Measuring range (Accuracy)	0.1µS/cm to 199.9mS/cm (±0.5% of measured value)
TDS:	0.1mg/L to 199.9g/L (±0.5% of measured value)
Salinity:	0.00 to 19.99psu (±0.5% of measured value)
Temperature:	0 to +100°C (±0.3°C)
Calibration:	1 point, 3 predefined standards
Input:	Mini-DIN
Temperature compensation:	Linear: 0.00%/°C to 10.00%/°C
Reference temperature:	20 and 25°C
Memory:	30 measurements
Power supply:	4 x AAA
Protection class acc. to DIN EN 60529:	IP 54

Type	PK	Cat. No.
FG3-Basic	1	**9.773 720**
FG3-Kit	1	**9.773 721**
FG3-Fieldkit	1	**7.652 924**

1 Conductivity meter SevenGo™ SG3

NEW!

Routine model (IP67) for mobile conductivity measurement *Mettler-Toledo Online*
- Automatic endpoint recognition and temperature compensation
- 1-point calibration from three pre-defined standards (84µS/cm, 1413µS/cm or 12.88mS/cm)
- Data memory for 30 data points
- Clear display of measured value and settings

Items supplied:
SG3-B: Conductivity meter (no electrode), complete with batteries, wrist strap, operating instructions, test certificate and declaration of conformity
SG3-ELK: Conductivity meter with InLab®738 conductivity sensor IP67 rated (1.8M fixed cable) complete with batteries, wrist strap, SevenGo™ clip, conductivity standard sachets, operating instructions, test certificate and declaration of conformity
SG3-FK2: Conductivity meter with InLab®738 conductivity sensor IP67 rated (1.8M fixed cable) with field compact case, rubber holster, field electrode arm, calibration bottles and same accessories as SG3-ELK
SG3-FK10: Conductivity meter with InLab®738 conductivity sensor IP67 rated (10M fixed cable) with field compact case, rubber holster, field electrode arm, calibration bottles and same accessories as SG3-ELK

Specifications:

Conductivity	
Measuring range:	0.01µS/cm to 500mS/cm
Resolution:	0.01 to 1
Accuracy:	±0.5%
Temperature	
Measuring range:	-5.0 to 105.0°C
Resolution:	0.1°C
Accuracy:	±0.2°C
TDS (Total Dissolved Solids)	
Measuring range:	0.01mg/l to 300g/l
Resolution:	0.01 to 1
Accuracy:	±0.5
Specific resistance	
Measuring range:	0.00 to 100M Ohm
Salinity	
Measuring range:	0.00 to 80.00ppt

Type	PK	Cat. No.
SG3-B	1	**9.704 302**
SG3-ELK	1	**9.704 107**
SG3-FK2	1	**9.704 108**
SG3-FK10	1	**7.618 344**

1

1 Conductivity meter SevenGo pro™ SG7

NEW!

Professional portable conductivity meter (IP67) for highest demands

Mettler-Toledo Online

- Linear and non-linear temperature compensation
- Measurement of ultra-pure water as per USP/EP
- Data storage for 200 GLP data records
- Contact-free IR communication for data transfer to a printer or PC

Items supplied:
SG7-B: Conductivity meter (no electrode), complete with batteries, wrist strap, conductivity standard sachets, operating instructions, test certificate and declaration of conformity
SG7-USP/EP: Conductivity meter with InLab®742 conductivity sensor (1.8M fixed cable, IP67), complete with batteries, wrist strap, SevenGo™ clip, conductivity standard sachets, operating instructions, test certificate and declaration of conformity
SG7-ELK: Conductivity meter with InLab®738 conductivity sensor IP67 rated (1.8M fixed cable) complete with batteries, wrist strap, SevenGo™ clip, conductivity standard sachets, operating instructions, test certificate and declaration of conformity
SG7-FK2: Conductivity meter with InLab®738 conductivity sensor IP67 rated (1.8M fixed cable) with field compact case, rubber holster, field electrode arm, calibration bottles and same accessories as SG7-ELK
SG7-FK10: Conductivity meter with InLab®738 conductivity sensor IP67 rated (10M fixed cable) with field compact case, rubber holster, field electrode arm, calibration bottles and same accessories as SG7-ELK

Specifications:

Conductivity	
Measuring range:	0.01µS/cm to 1000mS/cm
Resolution:	0.01
Accuracy:	±0.5%
Temperature	
Measuring range:	-5.0°C to +105°C
Resolution:	0.1°C
Accuracy:	±0.1°C
TDS	
Measuring range:	0.01mg/l to 600g/l
Resolution:	0.01 to 1
Accuracy:	±0.5%
Specific resistance	
Measuring range:	0.00 to 100.00M Ohm
Salinity	
Measuring range:	0.00 to 80.00ppt

Type	PK	Cat. No.
SG7-B	1	**9.704 326**
SG7-USP/EP	1	**9.704 327**
SG7-ELK2	1	**9.704 123**
SG7-FK2	1	**9.704 109**
SG7-FK10	1	**6.252 905**

1

Pocket conductivity meters ProfiLine

The new ProfiLine hand-held conductivity meters have a waterproof (IP 67) housing and a new, completely sealed silicone membrane keypad with tactile feedback. A separate battery compartment allows easy exchange of standard alkaline, or rechargeable, batteries.
The carefully laid out, large displays indicate the reading and other important information. 3210 and 3310 series meters have a backlit, graphics display and menu-controlled operation. A selection of application specific conductivity cells cover virtually all measurement tasks.

1 2 Portable conductivity meter ProfiLine Cond 3110

Easy to operate rugged conductivity meter for measurement of conductivity and salinity. *WTW*
Simplified keypad for clear and secure operation. Simultaneous display of measurement value and temperature. Large LCD display for easy reading. Automatic nIF compensation for all grades of natural water.
Works with four-electrode cell TetraCon® 325 or two-electrode cell KLE 325.

Specifications

Measuring ranges/Resolution

Conductivity:	0.0µS/cm to 1000mS/cm with 5 measuring ranges in the Auto Range mode
Temperature:	-5.0°C to +105.0°C ±0.1°C
Salinity:	0.0 to 70.0
T_{ref}:	20°C/25°C switchable

Type	Description	PK	Cat. No.
Cond 3110	meter only	1	**9.774 372**
Cond 3110 Set 1	cased set including conductivity probe TetraCon 325 and accessories	1	**9.774 358**
Cond 3110 Set 2	cased set including conductivity probe TetraCon 325 (3m) and accessories	1	**9.774 403**
Cond 3110 Set 3	cased set including conductivity probe KLE 325 and accessories	1	**9.774 404**

1

2

3 Portable conductivity meter ProfiLine Cond 3210

Convenient and versatile, hand-held, conductivity meter with backlit graphics display and menu-controlled operation. Waterproof and robust. For the measurement of conductivity, specific resistivity, salinity and TDS. Includes a 200 x GLP-compliant record memory. *WTW*
Wide selection of different conductivity cells attachable. Automatic and manual temperature compensation with linear temperature function and non-linear function for ultra-pure water and natural water in accordance with EN 27888.

Specifications

Measuring ranges/Resolution:

Conductivity:	as Cond 3110, but additionally with 0.00µS/cm to 19.99µS/cm (when K=0.1cm^{-1}) 0.000µS/cm at 1.999µS/cm (when K=0.01 cm $^{-1}$)
TDS:	0 to 1999mg/l 0.0 to 199.9g/l
Spec. resistance:	0.0 to 999MΩ/cm
Memory:	200 data records (measured value, temperature, date, time, ID)

Type	Description	PK	Cat. No.
Cond 3210	meter only	1	**9.774 379**
Cond 3210 Set 1	cased set including conductivity probe TetraCon 325 and accessories	1	**9.774 398**
Cond 3210 Set 2	cased set including 4-pole conductivity probe TetraCon 325 (3m) and accessories	1	**9.774 405**
Cond 3210 Set 4	cased set including 2-pole conductivity probe LR 325 / 01and accessories	1	**9.774 399**

3

Conductivity cell probes please see page 326.

1

2

1 2 Conductivity meter ProfiLine Cond 3310

WTW

Comfortable and versatile conductivity meter with integral, time controlled, data logger and 5000 GLP-compliant record memory for extended data collection. Menu controlled, with backlit, graphics display for comfortable, safe operation. Wide range of conductivity cells attachable. GLP-supporting functions, enhanced choice of cell constants, automatic and manual temperature compensation (which can be switched off) with linear and non-linear functions for pure water and natural waters acc. to EN 27888.

Specifications:

Measuring ranges/Resolution:

Conductivity:	as Cond 3110, but additionally with 0.00µS/cm to 19.99µS/cm (when K=0.1cm^{-1}) 0.000µS/cm at 1.999µS/cm (when K=0.01 cm $^{-1}$)
TDS:	0 to 1999mg/l, 0.0 to 199.9g/l
Spec. resistance:	0.0 to 999MΩ/cm
Memory:	5000 records (measured value, temperature, date, time, ID)

Type	Description	PK	Cat. No.
Cond 3310	meter only	1	**9.774 409**
Cond 3310 Set 1	case set including conductivity probe TetraCon 325 and accessories	1	**9.774 400**
Cond 3310 Set 2	case set including 4-pole conductivity probe TetraCon 325 (3m) and accessories	1	**9.774 401**
Cond 3310 Set 4	case set including 2-pole conductivity probe LR 325 / 01 and accessories	1	**9.774 402**

3

3 VARIO C_{ond} Set conductivity instrument

WTW

The VARIO C_{ond} has a lot to offer. This instrument was designed with ergonomic requirements in mind. It is ideal for service work and inspection measurements on process equipment. The TetraCon® 325 measuring cell, recognised around the world, was shortened and modified especially for the VARIO C_{ond}. If that is not enough; an adapted ultra-pure water cell with plug-in head and flow-through vessel can also be used with the VARIO C_{ond}

Specifications:

Measurement range/Resolution

Conductivity:	0.0µS/cm to 200mS/cm
Temperature:	-0.5 to +105.0°C
Salinity:	0.0 to 70.0°C
TDS:	0 to 1999mg/l
Spec. resistance:	0.000 to 1999 Mohm/cm
Accuracy (±1 digit)	
Conductivity:	±0.5% of measurement
Temperature:	±0.1K
Reference temp. (T_{ref}):	selectable 20°C or 25°C
Cell constant:	fixed 0.475 cm^{-1}, 0.1 cm^{-1}
Temperature comp.:	automatic or switched off
Temperature coefficient:	- non-linear function of natural water (nLF) per EN 27888 and ultra-pure water function - linear compensation of 0.01 to 2.99%/K - no compensation

Type	Description	PK	Cat. No.
VARIO C_{ond} Set A	incl. transport case, TetraCon® 325 and KCL solution	1	**9.774 390**
VARIO C_{ond} Set B	incl. transport case and LR 01/V	1	**9.774 391**

E & OE.
www.wenk-labtec.com

The new inoLab® series from WTW

The new inoLab® benchtops are perfectly designed for modern laboratory surroundings. *WTW*
The key pads are clearly outlined and easy-to-operate, their smooth surfaces are easy-to-clean and the operation is self-explanatory.
All meters include a universal power supply and a convenient stand with sensor support.
If desired they can be ordered in application oriented sets including sensors and accessories.

1 Laboratory instrument inoLab® Cond 7110

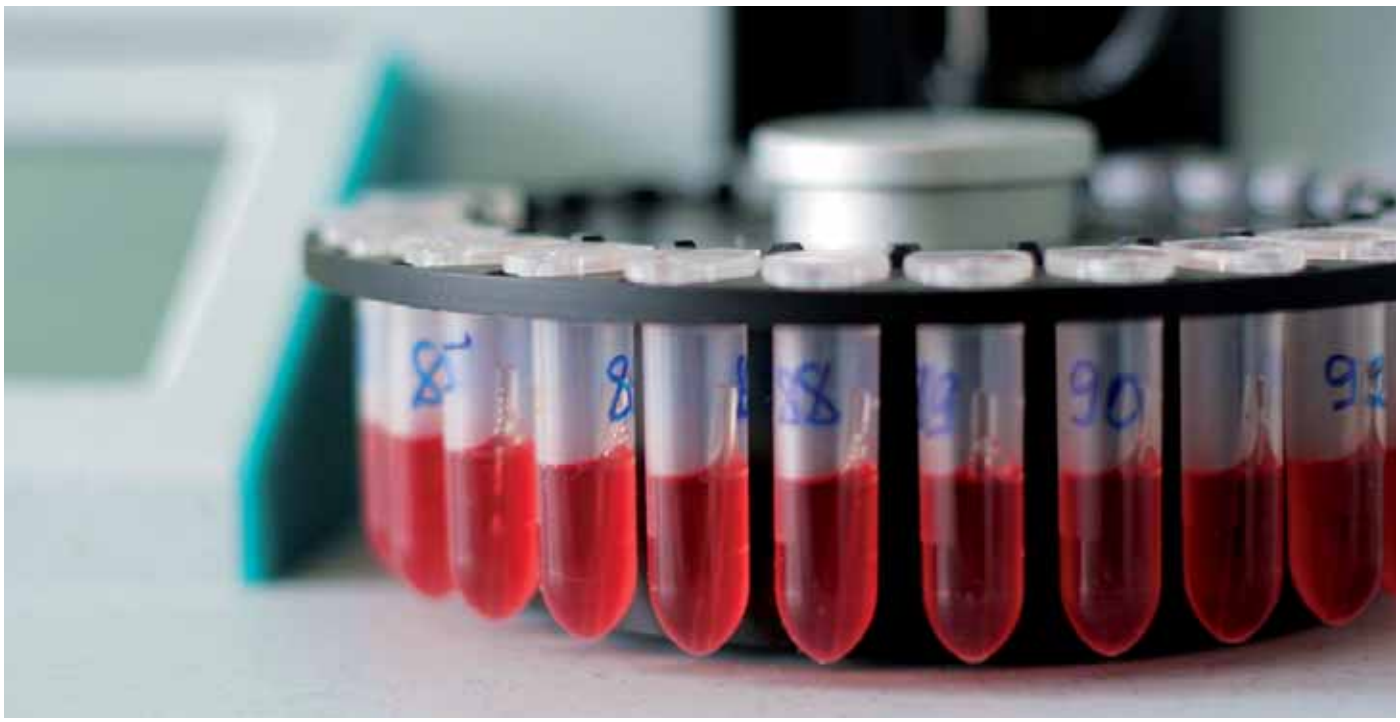
Modern conductivity measurement is east to do. the inoLab® Cond 7110 has all important functions for measuring conductivity like adjustable reference temperature and different methods of temperature compensation. A big LCD segment display makes readings easy and a well-arranged keypad provides convenient operation. The automatic AutoRead function supports correct and repeatable results. Each meter come with a stand and accessories. *WTW*

1

Specifications:

Ranges:	All values ±1 digit
Conductivity:	0.00 … 1000 mS/cm ±0.5 % v. Mw. 0.00 … 19.99 µS/cm at K= 0.1 cm^{-1})
Salinity:	0.0 … 70.0 (acc. IOT)
Temperature:	-5.0 … 105.0°C ±0.1°C
Cell constants:	0.450…0.500cm^{-1}, 0.09 … 0.110cm^{-1}, 0.800 to 0.880cm^{-1}
AutoRead:	automatic
Tref:	20°C/25°C
Temperature compensation:	nLF, lin 0.000 … 3.000%, switch off
Power supply:	Universal power supply, 100V to 240V, 50/60Hz, 4 x 1.5V AA or 4 x 1.2V NiMH

Type	Description	PK	Cat. No.
Cond 7110	Meter only including accessories	1	**9.920 096**
Cond 7110 Set 1	Meter including TetraCon® 325 and accessories	1	**9.920 097**
Cond 7110 Set 3	Meter including KLE 325 and accessories	1	**9.920 098**



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9.920 114

2

9.920 117

Conductivity meter inoLab® Cond 7310

This is the new inoLab® Cond 7310 or inoLab® Cond 7310P. A modern backlit graphic display with menu controlled user interface allows easy and intuitive operation. The mini USB-B interface provides fast data transfer to a PC. The internal memory can record up to 5000 GLP complying data including ID, date and time. The housing and the keypad are easy-to-clean. The inoLab® Cond 7310 has the possibility to connect different standard and special conductivity electrodes and has automatic and manual temperature compensation (can even be switched off for pure water measurements according pharmacopeia) for linear and non-linear function according EN 27 888. An integrated thermal printer (58mm width) is ready for printout of the measured data (option). The scope of delivery includes meter, stand, power supply and USB cable.

WTW

Specifications

Ranges:	All values ±1 digit
Conductivity additional:	0.00 ... 1000 mS/cm ±0.5 % v. Mw. 0.000 ... 1.999 µS/cm, K= 0.01 cm^{-1} 0.00 ... 19.99 µS/cm, K= 0.1 cm^{-1}
Spcific resistance:	0.00 ... 20 MOhm cm
Salinity:	0.0 ... 70.0 (acc. IOT)
TDS:	1 ... 1999 mg/l, 0 to 199.9 g/l
Temperature:	-5.0 ... 105.0°C ±0.1°C
Cell constants:	Fix 0.01 cm-1, for calibration 0.450...0.500 cm-1, 0.800 ... 0.880 cm^{-1}, adjustable 0.09 ... 0.110cm^{-1}, 0.250 ... 25.0cm^{-1}
Calibration:	1 point
Tref:	20°C/25°C
Temperature compensation:	none, nlF, 0.000 ... 10.00 %/K
Calibration memory:	Up to 10 calibrations recallable
Display:	LCD Graphic, backlit
Memory:	manual 200/5000 automatic
Logger:	manual/time controlled
Interface:	Mini USB-B
Power supply:	Universal power supply, 100V to 240V, 50/60Hz, 4 x 1.5V AA or 4 x 1.2V NiMH

Type	Description	PK	Cat. No.
Cond 7310	Meter incl. accessories	1	**9.920 114** 1
Cond 7310 Set 2	Meter incl. TetraCon® 325 and accessories	1	**9.920 115**
Cond 7310 Set 6	Meter incl. USP Kit 1	1	**9.920 116**
Cond 7310P	Meter with built-in printer and accessories	1	**9.920 117** 2
Cond 7310P Set 1	Meter with built-in printer, incl. TetraCon® 325 and accessories	1	**9.920 118**
Cond 7310P Set 6	Meter incl. USP Kit 1	1	**9.920 119**

3

3 Conductivity meter Education Line EL30

NEW!

Experience science with conductivity bench meters

Mettler-Toledo Online

- Simple intuitive operation: helps you save time during classes
- Compact, robust benchtop instrument
- Robust, low-maintenance, yet reliable electrodes available in kit version
- Ideal for schools and universities

EL30-BASIC: Conductivity instrument incl. operating manual, "Quick guide", power adapter
EL30-KIT: Instrument and accessories as with EL30 Basic, also with LE703 conductivity sensor, electrode arm, 2 x 1413ìS/cm and 2 x 12.88mS/cm standard sachets

Please note: These articles are only available for schools and universities.

Specifications

Measuring range/accuracy	
Condictivity:	0.1µS/cm to 199.9mS/cm/±0.5%
Temperature:	0.0°C to +100°C/±0.3°C
Calibration:	1-point, 3 predefined standards
Display:	LCD
Power supply:	100-240V/50-60Hz, 9V DC
Dimensions (WxDxH):	200 x 175 x 52mm
Weight:	600g

Type	PK	Cat. No.
EL30-Basic	1	**9.704 149**
EL30-Kit	1	**9.704 150**
LE703	1	**9.041 621**

1 Conductivity meters FiveEasy™/FiveEasy™ Plus

NEW!

Mettler-Toledo Online

FiveEasy and FiveEasy Plus Conductivity are compact, easy to use bench meters suitable for a wide range of applications in various areas such as food and beverage, agriculture, industry, water and environment.

- Outstanding functions such as TDS and salinity modes and meter self-test combined with features such as automatic endpoint, 1 point calibration, linear temperature compensation and selectable reference temperature
- Five self-explanatory buttons for starting and ending a measurement or calibration and for accessing the latest calibration data
- A big, well organised display simultaneously showing readings, temperature, endpoint criteria and various helpful icons

FE30-Basic: Conductivity instrument incl. operating manual, "Quick guide", power adapter
FE30-Kit: Instrument and accessories as with FE30-Basic, also with LE703 conductivity sensor, electrode arm, 2 x 1413µS/cm and 2 x 12.88mS/cm standard sachets
FEP30-Basic: Conductivity instrument incl. operating manual, "Quick guide", power adapter
FEP30-Kit: Instrument and accessories as with FEP30-Basic, also with LE703 conductivity sensor, electrode arm, 2 x 1413µS/cm and 2 x 12.88mS/cm standard sachets

Specifications

Measuring range (Accuracy)	
Conductivity:	0.1µS/cm to 199.9mS/cm (±0.5% of measured value)
TDS:	0.1mg/L to 199.9g/L (±0.5% of measured value)
Salinity:	0.00 to 19.99psu (±0.5% of measured value)
Temperature:	0°C to +100°C (±0.3°C)
Calibration:	1 point, 3 predefined standards
Input:	Mini-DIN
Temperature compensation:	Linear: 0.00%/°C to 10.00%/°C
Reference temperature:	20°C and 25°C
Power supply:	100-240 V/50-60 Hz/9V DC
FEP30 only:	
Memory:	99 measurements
Output:	RS232 interface

Type	PK	Cat. No.
FE30-Basic	1	**9.773 701**
FE30-Kit	1	**6.251 347**
FEP30-Basic	1	**9.773 711**
FEP30-Kit	1	**9.773 712**
FiveEasy AC adaptor (incl. connectors) input 230V, output DC 9V	1	**7.900 515**
FiveEasy electrode arm (complete)	1	**6.235 935**

1

1 Conductivity meter SevenCompact™

NEW!

Mettler-Toledo Online

The colour display with its well-designed icons and menu settings in 10 languages makes operation genuinely intuitive. Applications range from routine measurements through sample analysis, data handling and data archiving in compliance with GLP regulations.
Simply innovative design that meets the requirements for a universal, easy-to-operate conductivity meter.

- User friendly instrument for demanding users
- Security and high reproducibility thanks to Intelligent Sensor Management (ISM®)
- Improved quality of measurements through professional calibration support
- Comprehensive service package including IQ/OQ
- Integrated USB and RS232 interfaces for data exchange

Supplied with:
S230-Basic: Instrument, electrode holder, protective cover, operating instructions, quick guide, declaration of conformity and test certificate
S230-Kit: As per S230-Basic, additionally with InLab® 731-ISM, guide to conductivity measurements and 2 calibraton sachets for 1413µS/cm and 12.88mS/cm.
S230-USP/EP: As per S230-Kit, but with InLab® 741-ISM instead of InLab® 731-ISM and without calibration sachets for 12.88mS/cm.

Specifications:

Calibration:	13 pre-defined and 1 user-defined standard
Conductivity range:	0.001µS/cm to 1000mS/cm, autoscaling
Conductivity accuracy:	±0.5%
Salinity range:	0.00 to 80.00psu
TDS range:	0.00mg/L to 1000g/L, autoscaling
Resistivity range:	0.00 to 100MOhm*cm, autoscaling
Conductivity ash range:	0.000 to 2022%, autoscaling
Temperature range	
MTC:	-30.0 to 130.0°C
ATC:	-5.0 to 130.0°C
Temperature accuracy:	±0.1°C
Display:	4.3 inch, TFT color
Ext. power supply:	9-12V/10W

Type	PK	Cat. No.
S230-Basic	1	**9.704 164**
S230-Kit	1	**9.704 165**
S230-USP/EP	1	**9.704 166**

1

1 2 Conductivity meter ‚SevenExcellence™ S700

NEW!

Mettler-Toledo Online

Modular professional system for measurements of pH, redox potential, conductivity, salinity/TDS and ion concentration.
Fits up to three modules in any composition and order, can be expanded with additional measurement parameters at any time.
- Large, high resolution 7" colour touch display (capacitive), very clear and easy to operate
- Modularity and flexibility; up to 3 measuring modules can work in parallel, expansion to 2 or 3 channels possible
- Universal communication via 2 x USB, Ethernet (LAN) and RS232
- Plain text user interface in 10 languages with menu guidance in full sentences
- OneClick™ operation concept to quickly start frequently used functions and preferred methods
- Storage for user methods
- Highest security and GxP support (ID protection, sophisticated user management, limits/alarms, integrated radio clock, etc.)
- Intelligent sensor management (ISM®)
- Connection of stirrer, sample changer, PC, barcode reader, keyboard, local or network printer possible
- Storage up to 20000 data sets (measurements, calibrations, methods)
- 17 predefined, 60 user-defined methods
- Calibration: 13 pre-defined and 20 user-defined standards
- uPlace™ electrode arm with perfect vertical movement
- Compatible with all METTLER TOLEDO electrodes (Recommended: ISM® electrodes)

S700-Basic: Includes instrument, 1 x conductivity expansion unit, 2 x blank expansion units, uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate.
S700-Kit: As S700-Basic, but also with InLab® 731-ISM, guide to conductivity measurements and 2 calibration sachets for 1413 µS/cm and 12.88 mS/cm.
S700-Trace: As S700-Kit but with InLab® Trace instead of InLab® 731-ISM, with Flow-Cell and without calibration sachets.

Specifications	**Measuring range // Resolution // Accuracy**
Temperature MTC/ATC:	-30.0 to 130.0°C // 0.1°C // ±0.1°C
Conductivity:	0.001 to 999999 µS/cm // 0.001 to 1 // ±0.5%
	0.001 to 2000 mS/cm // 0.001 to 1 // ±0.5%
	0.001 to 200 S/m // 0.0001 to 1 // ±0.5%
	0.001 to 200000 mS/m // 0.0001 to 1 // ±0.5%
	0.1 to 999999 µS/m // 0.001 to 1 // ±0.5%
TDS:	0.001 to 1000 g/L , ppt // 0.001 to 1 // ±0.5%
	0.001 to 999999 mg/L , ppm // 0.001 to 1 // ±0.5%
Salinity:	0.01 to 80.0 psu , ppt // 0.01 to 0.1 // ±0.5%
Resistivity:	0.01 to 100.0 MΩxcm // 0.0001 to 1 // ±0.5%
	0.01 to 999999 Ωxcm // 0.01 to 1 // ±0.5%
Conductivity Ash:	0.000 to 2022% // 0.001 to 1 // ±0.5%

Type	PK	Cat. No.
S700-Basic	1	**9.704 354**
S700-Kit	1	**9.704 355**
S700-Trace	1	**9.704 356**

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9.041 443

Conductivity sensors for Mettler Toledo conductivity meters

NEW!

Mettler-Toledo

InLab® 731
4 graphite pole cell with integral temperature sensor. Cable length 1.2 metres.
Measuring range: 0.01 to 1000mS/cm.

InLab® 741
2 steel pole cell with integral temperature sensor. Cable length 1.2 metres. Measuring range: 0.001 to 500µS/cm

InLab® 710
4 platinum pole cell with integral temperature sensor. Cable length 1 metres. Measuring range: 0.01 to 500mS/cm

InLab® 720
2 platinum pole cell with integral temperature sensor. Cable length 1 metres. Measuring range: 0.1 to 500µS/cm

InLab® 751-4mm
2 platinum pole micro cell with integral temperature sensor. Cable length 1 meter.
Measuring Range: 0.01 to 100 mS/cm

InLab® 752-6mm
2 platinum pole semi-micro cell with integral temperature sensor. Cable length 1 meter.
Measuring Range: 0.01 to 112mS/cm

Type	Shaft material	Shaft diameter mm	Length mm	Cell constant	PK	Cat. No.
InLab® 731	Graphite	12	120	K=0.57	1	**9.041 447**
InLab® 731-ISM	Graphite	12	120	K=0.57	1	**9.041 448**
InLab® 741	V4A steel	12	120	K=0.105	1	**6.242 844**
InLab® 741-ISM	V4A steel	12	120	K=0.105	1	**9.041 442**
InLab® 710	Glass	12	120	K=0.80	1	**9.041 443** 1
InLab® 720	Glass	12	120	K=0.06	1	**9.041 446**
InLab® 751-4mm	Glass	4	120	K=1.0	1	**9.041 475**
InLab® 752-6mm	Glass	6	120	K=1.0	1	**9.041 476**

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9.704 081

3

9.704 078

Conductivity cell probes

WTW

TetraCon® 325 standard conductivity cell probe:
4-pole cell with integral temperature sensor. Cable length 1.5 metres.
Measuring range: 1µS/cm to 2S/cm.

LR 325/01 ultra-pure water conductivity cell probe:
With integral temperature sensor and flowthrough vessel D 01/T for measuring very low conductivity ranges (<1 µS/cm) e.g. boiler feed water or deionised water. Cable length 1.5 metres. Min./max. insertion depth 35/110mm and flowthrough, measuring range: 0.001µS/cm to 200µS/cm.

TetraCon® DU/T conductivity flowthrough cell:
4-pole conductivity cell with integral temperature sensor for standard applications. Connection via 10mm diameter tubing nozzles (the adapter cable KKDU with 1 metre cable is required for connection). Filling volume 7ml.
Measuring range: 1µS/cm to 1000mS/cm.

Type	Electrode	Shaft	Length mm	Cell constant	PK	Cat. No.
TetraCon® 325	Graphite	Epoxy resin	120	K =0,475	1	**9.704 081** 2
LR 325/01	V4A steel	V4A steel	121	K = 0.1	1	**9.704 083**
TetraCon® DU/T	Graphite	Epoxy resin	155	K approx. 0.8	1	**9.704 078** 3
KKDU 325	Connection cable	-	100	-	1	**9.704 079**

4

4 Conductivity solutions for Conductivity meters

Bottles with 500ml.

Hanna

Type	PK	Cat. No.
12880 µS	1	**9.704 017**
1413 µS	1	**9.704 018**
84 µS	1	**9.773 992**
80.000 µS	1	**9.773 993**

Conductivity solutions with Certificate of Analysis

NEW!

Bottles with 500ml.

Hanna

Type	PK	Cat. No.
84 µS	1	**6.230 626**
1413 µS	1	**7.970 290**

E & OE.
www.wenk-labtec.com

1 Conductivity Solutions

- Directly traceable to NIST
- ISO17025 Certificate including actual value, expiration date and uncertainty of measurement
- Actual expiry and temperature dependence data on label.
- All standards are aqueous based and non-hazardous.
- Supplied in unbreakable PE-HD bottle.

Reagecon

1

Type	Capacity ml	PK	Cat. No.
1.3 µS/cm	250	1	**6.225 059**
5 µS/cm	500	1	**6.901 629**
10 µS/cm	500	1	**6.901 622**
20 µS/cm	500	1	**6.802 901**
50 µS/cm	500	1	**6.074 754**
84 µS/cm	500	1	**9.040 904**
100 µS/cm	500	1	**6.234 859**
147 µS/cm	500	1	**9.040 905**
200 µS/cm	500	1	**6.802 902**
500 µS/cm	500	1	**6.205 415**
1000 µS/cm	500	1	**6.901 670**
1413 µS/cm	500	1	**9.040 906**
5000 µS/cm	500	1	**6.205 412**
10000 µS/cm	500	1	**6.901 671**
12880 µS/cm	500	1	**9.040 907**
50000 µS/cm	500	1	**6.210 129**
100000 µS/cm	500	1	**6.205 413**
450000 µS/cm	500	1	**6.243 175**

2 Conductivity testing solutions

Values stated at 25°C. Supplied in containers as indicated. Accuracy ±2%.

SI Analytics GmbH

2

Type	Capacity ml	PK	Cat. No.
147µS/cm*	17	18	**9.041 053**
12.9mS/cm*	17	18	**9.041 055**
1413µS/cm	250	1	**9.041 056**

* Supplied in vials!

1 Portable dissolved oxygen meter FiveGo™ DO

NEW!

Mettler-Toledo Online

FiveGo™ DO is a handy, portable meter ideal for those who require rapid and reliable results on the go. This meter is suitable for a wide range of applications in various areas such as food and beverage, agriculture, industry, water and environment

- Outstanding functions such as storage capacity for 30 measurements, %, mg/L and ppm measuring modes plus IP54 ingress protection combined with features such as automatic endpoint recognition, calibration in air and automatic temperature compensation when a temperature sensor is connected
- Five self-explanatory buttons for starting and ending a measurement, for saving and accessing measurement results and for reviewing the latest calibration data.
- A big, well organised display simultaneously showing readings, temperature, endpoint criteria and various helpful icons

FG4-Basic: Dissolved oxygen meter incl. electrode clip, wrist strap, operating manual, "Quick guide", 4 x batteries
FG4-Kit: Instrument and accessories as for FG4-Basic, but with LE621 sensor, NTC 30 kΩ temperature sensor, IP54 connection caps
FG4-Fieldkit: Instrument and accessories as for FG4-Kit, with carry bag incl. 4 sample bottles

1

Specifications:

Measuring range (Accuracy)	
DO:	0.0 to 199.9% and 200 to 400% (±1%) 0.0 to 45.0mg/L (±1%) 0.0 to 45.0ppm (±1%)
Temperature:	0 to +50°C (±0.3%)
Salinity (Resolution):	0.0 to 50.0ppt (0.1ppt)
Barometic pressure (Resolution):	375 to 825mm Hg (1mm Hg) 500 to 1100mbar (1mbar) 500 to 1100hPa (1hPa)
Calibration:	2 points, 100% and 0%
Input:	BNC, Cinch, NTC 30 kΩ
Temperature compensation:	ATC and MTC
Memory:	30 measurements
Power supply:	4 x AAA
Protection class acc. to DIN EN 60529:	IP 54

Type	PK	Cat. No.
FG4-Basic	1	**9.773 722**
FG4-Kit	1	**9.773 723**
FG4-Fieldkit	1	**9.773 724**

partner of the LLG Lab Logistics Group

We can supply this manufacturer's whole product range !

METTLER TOLEDO

1 Dissolved oxygen meter SevenGo pro™ SG6

NEW!

Professional portable dissolved oxygen meter (IP67) for highest demands
- Manual or automatic air pressure compensation with built-in barometer
- High-performance O_2 sensor
- Data memory for 200 GLP data points
- Contact-free IR communication for data transfer to a printer or PC

Mettler-Toledo Online

Items supplied:
SG6-B: Dissolved oxygen meter (no electrode), complete with batteries, wrist strap, operating instructions, test certificate and declaration of conformity
SG6-ELK: Dissolved oxygen meter with InLab®605 oxygen sensor IP67 rated (1.8M fixed cable), complete with batteries, wrist strap, SevenGo™ clip, operating instructions, test certificate and declaration of conformity
SG6-FK2: Dissolved oxygen meter with InLab®605 oxygen sensor IP67 rated (1.8M fixed cable) with field compact case, rubber holster, field electrode arm, calibration bottles and same accessories as SG6-ELK
SG6-FK10: Dissolved oxygen meter with InLab®605 oxygen sensor IP67 rated (10M fixed cable) with field compact case, rubber holster, field electrode arm, calibration bottles and same accessories as SG6-ELK

Specifications:

Saturation	
Measuring range:	0.0 to 600%
Resolution:	0.1 to 1
Accuracy:	±0.5%
Temperature	
Measuring range:	0.0 to +60°C
Resolution:	0.1°C
Accuracy:	±0.1°C
mg/L, ppm	
Measuring range:	0.00 to 99.00
Resolution:	0.01
Accuracy:	±0.5%, max. 0.03
Pressure	
Measuring range:	500 to 1100mbar
Resolution:	1
Accuracy:	±1

Type	PK	Cat. No.
SG6-B	1	**9.704 324**
SG6-ELK	1	**9.704 112**
SG6-FK2	1	**9.704 114**
SG6-FK10	1	**9.704 325**

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1 Waterproof Oxygen Meter HI9146

Hanna

DO measurements can be displayed in ppm (mg/l) or in % saturation, together with temperature value. Automatic calibration in the air, at 100%. Automatic temperature compensation from 0 to 50°C. Instrument allows manual compensation of altitude and salinity. Hold-Function allows the user to "freeze" the reading on the LCD. Auto-off after 4 hours of inactivity, input for 12V d.c. adapter.

Waterproof Oxygen Meter supplied complete with Oxygen Probe, electrolyte solution for DO probe (30 ml), 2 membranes, 4 batteries and a hard carrying case.

Measuring range/Accuracy:

O_2 concentration:	0.00 to 45.00mg/l
	±1.5% of Measuring range
O_2 saturation:	0.0 to 300.0%
	±1.5% of Measuring range
Temperature:	0.0 to 50.0°C/±0.5°C
Resolution:	
O_2 concentration:	0.01mg/l
O_2 saturation:	0.1%
Temperature:	0.1°C
Temperature compensation:	automatic from 0 to 50°C
Height compensation:	0 to 4km/resolution 0.1km
Salinity compensation:	0 to 80g/l/resolution 1g
Environment:	0 to 50°C
Dimensions:	196 x 80 x 60mm
Weight:	500g

Type	Description	PK	Cat. No.
HI 9146-04	incl. Oxygen Probe with 4m cable	1	**9.773 997**
HI 9146-10	incl. Oxygen Probe with 10m cable	1	**9.773 999**

2

2 Portable dissolved oxygen meter Oxi 3205

WTW

Robust and easy to use dissolved oxygen meter for standard alkaline, or rechargeable, batteries. Menu-controlled with backlit graphics display for ease of use under all lighting conditions. Suitable for use in harsh environments.

Measuring ranges:

O2 concentration:	0.00 to 20.0mg/l (19.9mg/l*)
	0.0 to 90.0mg/l (90mg/l*)
O2 saturation:	0.0 to 200.0% (200%*)
	0 to 600%
Temperature:	0.0 to +50°C, ±0.1°C
	* when using DurOx oxygen sensor probes
Accuracy:	
O2 concentration:	±0.5% of reading
O2 saturation:	±0.5% of reading

Type	Description	PK	Cat. No.
Oxi 3205	meter only	1	**9.774 378**
Oxi 3205 Set 1	case set including DO sensor CellOx 325 and accessories	1	**9.774 340**
Oxi 3205 Set 2	case set including DO sensor CellOx 325 (3m) and accessories	1	**9.774 406**
Oxi 3205 Set 3	case set including DO sensor DurOx 325 (3m) and accessories	1	**9.774 343**

StirrOx®, CellOx® and DurOx® electrodes please see page 333.

1 Portable dissolved oxygen meter Oxi 3210

Convenient and versatile dissolved oxygen meter. Menu controlled, with backlit, graphics display. Memory, including GLP supporting functions, temperature compensation, barometric pressure and salinity. Powered by standard alkaline, or rechargeable, batteries. *WTW*

Measuring ranges:

O2 concentration:	0.00 to 20.00mg/l (19.9mg/l*) 0.0 to 90.0mg/l (90mg/l*)
O2 saturation:	0.0 to 200.0% (199%*) 0 to 600%
Partial pressure:	0.0 to 200.0mbar (199 mbar*) 0 to 1250mbar
Temperature:	0.0 to +50.0°C, ±0.1°C * when using DurOx oxygen sensor probes

Accuracy:

O2 concentration:	±0.5% of reading
O2 saturation:	±0.5% of reading
Partial pressure:	±0.5% of reading
Datalogger:	200 records (Reading, Temperature, Date, Time, ID)

Type	Description	PK	Cat. No.
Oxi 3210	meter only	1	**9.774 350**
Oxi 3210 Set 1	cased set including DO sensor CellOx 325 and accessories	1	**9.774 351**
Oxi 3210 Set 2	cased set including DO sensor CellOx 325 (3m) and accessories	1	**9.774 407**
Oxi 3210 Set 3	cased set including DO sensor DurOx 325 (3m) and accessories	1	**9.774 357**

1

The new inoLab® series from WTW

The new inoLab® benchtops are perfectly designed for modern laboratory surroundings. *WTW*
The key pads are clearly outlined and easy-to-operate, their smooth surfaces are
easy-to-clean and the operation is self-explanatory. All meters include a universal power supply and a convenient stand with sensor support.
If desired they can be ordered in application oriented sets including sensors and accessories.

1 Oxygen meter inoLab® Oxi 7310

Reliable Documentation for dissolved oxygen measurement, if desired also available with *WTW*
built-in printer. This is the inoLab® Oxi 7310 or inoLab® Oxi 7310P. A modern backlit
graphic display with menu controlled user interface allows easy and intuitive operation. The mini USB-B interface provides fast data transfer to a PC.
The internal memory can record up to 5000 GLP complying data including ID, date and time. The housing and the keypad are easy-to-clean.
The inoLab® Oxi 7310 supports the long proven WTW galvanic sensors, CellOx® 325 and StirrOx® G. A calibration history of the 10 last calibrations allows conclusions on the state of the sensor. Calibrations versus external standards e.g. Winkler titration, are possible, too.
The meter includes automatic barometric pressure and temperature compensation. An integrated thermal printer (58 mm width) is ready for printout of the measured data (option).
The scope of delivery includes meter, stand, power supply and USB cable.

Specifications

Ranges:	All values±1 digit
Dissolved oxygen concentration:	0.00 ... 20.00 mg/l ±0.5 % Mw.
	0 ... 90 mg/L ±0.5 %
Saturation:	0.0 ...200.0 % ±0.5 % v. Mw.
	0 ... 600 % ±0.5 v Mw.
Partial pressure:	0 ... 200.0 hPa, 0 ...1250 hPa
Temperature:	-5.0 ... 105.0°C ±0.1°C
Calibration:	1-point air calibration (water vapour saturated air) or versus external standard
Calibration memory:	Up to 10 calibrations recallable
Display:	Backlit graphic LCD
Memory:	manual 5/5000 automatic
Logger:	manual/time controlled
Interface	Mini USB-B
Power supply	Universal power supply, 100 to 240 V, 50/60 Hz, 4 x 1.5 V AA

Type	Description	PK	Cat. No.
Oxi 7310	Meter only including accessories	1	**9.920 108**
Oxi 7310 Set 1	Meter including CellOx® 325 and accessories	1	**9.920 109**
Oxi 7310 Set 4	Meter including StirrOx® G and accessories	1	**9.920 110**
Oxi 7310P	Meter including integrated printer	1	**9.920 111**
Oxi 7310P Set 1	Meter including integrated printer, incl. CellOx® 325 and accessories	1	**9.920 112**
Oxi 7310P Set 4	Meter including integrated printer, incl. StirrOx® G and accessories	1	**9.920 113**

1

1 Accessories for Oxygen meters

StirrOx® G: *WTW*

For inoLab® Oxi 730, ProfiLine 197i/1970i, inoLab® 740 Oxi, inolab Oxi 7310
Self-stirring oxygen sensor.
- single-handed use
- high reproducibility
- ready for immediate use, no polarisation period necessary
- extremely low internal consumption of oxygen by the electrode
- no zero point calibration necessary
- OxiCal®-SL calibration and storage vessel included
- 6 months operation with one electrolyte filling
- IMT function compensation
- membrane leakage monitoring, damaged membranes are indicated.

Supplied with case, spare parts and maintenance solutions.

CellOx® 325:

For Oxi 3xx, Oxi 3xxi, ProfiLine Oxi 197, ProfiLine Oxi 197i, ProfiLine Multi 197i, Multi 340i, Oxi 3205, Oxi 3210, Oxi 3310, ProfiLine Oxi 1970i, ProfiLIne Multi 1970i, inoLab®
Membrane-covered, galvanic oxygen sensor.
- ready for immediate use, no polarisation period necessary
- IMT function compensation
- 6 months operation with one electrolyte filling
- stable zero point
- 1.5 metre cable and waterproof plug (to IP 67) (other cable lengths available on request)
- OxiCal®-SL calibration and storage vessel included

Type	PK	Cat. No.
StirrOx® G	1	**9.822 560**
CellOx® 325	1	**9.822 551**

2 Oxygen sensor DurOx® 325

For use with Oxi 3xxi, ProfiLine Oxi 1970i, ProfiLine 3205, 3210, 3310. *WTW*
Membrane-covered oxygen sensor with low flow requirement and removable cage guard, for field applications (fish farm revival pools) and for educational purposes.

- ready to measure - no polarisation time
- IMT compensation via two integral temperature sensors
- service life with one electrolyte filling approx. 6 months
- minimal flow requirement
- no zero current
- sensor is watertight (IP 68 - 2)
- standard with 3m cable and watertight plug
- standard with calibration/storage vessel OxiCal® -D
- standard with cage guard SK-D

Type	PK	Cat. No.
DurOx® 325	1	**9.920 045**

BOD (Karlsruher) bottles - please see page 1193.

1

1 Combined pH/conductivity/temperature testers

Hanna

Simultaneous display of pH- and/or conductivity measurement value and temperature.
Automatic temperature compensation of pH- and/or conductivity measurement gives enhanced accuracy. User selection of temperature coefficient enables use in alkaline and acidic media.
Easy calibration with pre-programmed pH and conductivity solution values.
Integral, robust, carbon conductivity probe. Exchangeable pH electrode HI 73127.
Model HI 98130 features a very wide measuring range of 0 to 19.99 mS

Specifications

Measuring ranges:

pH:	0.0 to 14.0
EC:	0 to 3999µS (HI 98129)
	0 to 19.99mS (only HI 98130)
TDS:	0 to 2000mg/l (HI 98129)
°C:	0 to 10.00g/l (HI 98130)
Accuracy:	
pH:	±0.05
EC/TDS:	±2% of the upper range value
°C:	±0.5
Batteries:	4 x 1.5 Volt
Ambient conditions:	
	0 to 50.0°C
Weight:	100g

Type	PK	Cat. No.
HI 98129	1	**9.773 995**
Spare electrode HI 73127	1	**9.773 921**
HI 98130	1	**9.773 996**

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2 Waterproof Multimeters HI991300/HI991301 N

Hanna

pH or conductivity (TDS) values are displayed together with temperature. Supplied with multi-parameter probe, all measurements can be taken without changing the probe.
Automatic temperature compensation ensures high accuracy of the measurements.
Automatic calibration with pre-programmed pH buffer (pH 7.01, pH 4.01, pH 10.01) and conductivity solutions 1413µS (for HI 991300) or 12880µS (for HI 991301 N). Graphic symbols guide the user through calibration and measurements.

HI991300 and HI991301 are supplied complete with multi-parameter probe with 1metre cable, 4 x 1.5 Volt batteries, altogether in a carrying case.

Specifications

Measurement range/Accuracy:

pH:	0.00 to 14.00/±0.01
EC:	0 to 3999µS/cm (HI991300)
	0 to 20.00mS (HI991301 N)/
	±2 % of the measurement range
TDS:	0 to 2000 mg/l (HI991300)
	0 to 10.00 g/l (HI991301 N)/
	±2 % of the measurement range
°C:	0.0 to 60.0
Resolution:	
pH:	0.01
EC:	1µS/cm (HI991300)
	0.01mS/cm (HI991301 N)
TDS:	1mg/l (HI991300)
	0.01g/l (HI991301 N)
°C:	0.1°C
Batteries:	4 x 1.5 Volt AAA
Dimension:	145 x 80 x 36mm
Weight:	210g

Type	PK	Cat. No.
HI 991300	1	**6.231 448**
HI 991301 N	1	**6.241 705**
Spare probe HI 1288	1	**6.901 328**

1 Multiparameter meters AL15

NEW!

AQUALYTIC

Dissolved Oxygen/O2-concentraion in mg/l/Conductivity/TDS/pH/Redox/Temperature.
The AL15 combines the features of several electrochemistry meters.
It is designed for multi purpose operation and measures pH/Redox, dissolved oxygen and conductivity/TDS.
The AL15 incorporates an intuitive user interface, large, easy to read display and is supplied with a sturdy handy case with electrodes, buffer solution and accessories.

Specifications
Measuring range

pH:	0 - 14pH
ORP:	-1999 to +1999mV
Conductivity:	0 to 200.0µS
	0.2 to 2.000mS
	2 to 200.0mS
TDS:	0 to 132.000 ppm
Temperature:	0 to +60°C or +32 to +140°F
Oxygen:	0 to 20.0mg/l
	0 to 100.0% in Air
Display:	Large LCD with contrast adjustment
Interface:	USB, RS232
Power supply:	DC 1.5V battery (UM3, AA) x 4 PCs or DC 9V Adapter

Type	PK	Cat. No.
AL15 pH/Con/Oxi	1	**6.241 474**
AL15 pH/Con	1	**6.241 983**
AL15 pH/Oxi	1	**6.256 805**
AL15 pH/Redox	1	**9.699 295**

WTW

a xylem brand

THE WORLDWIDE NO. 1 FOR ELECTROCHEMISTRY METERS

Founded in 1945, WTW has provided outstanding leadership in the design and production of superior quality water testing instrumentation world-wide for more than 65 years.

Today WTW is offering the world's most complete line of pH/ORP, D.O./BOD/Respirometry and Conductivity Instruments, Turbidity Meters, Photometers with reagents.

wtw.com

www.wenk-labtec.com

xylem
Let's Solve Water

1 2 3 4 MultiLine® IDS

WTW

Multiparameter measurement new defined. The new MultiLine® handhelds with intelligent digital IDS sensors are perfectly suited for all multiparameter applications. The biggest advantage - signals are directly processed in the sensor. Each sensor logs onto the instrument and transfers its ID data including calibration records. There is no danger of confusion, the digital signal transfer allows the use of long cables for all parameters. The unique QSC functionality for IDS pH sensors gives a realistic rating of the current sensor condition. The pH CMC indicates the optimum pH measuring range. A wide range of IDS pH, conductivity and DO probes covers almost any application. Universal waterproof quick-locks secure the sensor against loss. The robust and waterproof (IP67) MultiLine® handhelds are equipped with a colour graphic display for optimum information. A special silicone keypad provides excellent handling comfort. Two USB host interfaces are provided for data transfer to USB sticks or the user's PC. The latest software updates are provided via the internet. NiMH-rechargeable batteries provide an energy-efficient operation. Available as field case sets including sensors and accessores.

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5 6 Multiparameter meters, ProfiLine Multi 3410/3420/3430

There are 3 different models available:

Multi 3410: A single channel meter for pH, ORP, conductivity and DO measurement. It is particularly aimed at those users measuring one parameter but occasionally having requirements for measuring a second or third.

Multi 3420: A dual channel instrument for simultaneous measurement of two equal or different parameters

Multi 3430: A triple channel instrument for simultaneous measurement of up to three equal or different parameters

Selected IDS-Sensors:

SenTix® 940: Low maintenance combined pH electrode with ATC, QSC suitable, memory for 10 calibrations, stored serial number, pH 0.000 to 14.000 (±0.004pH), temperature range 0.0 to 80.0°C, ±0.2°C

SensoLyt® 900: Low maintenance polymer electrolyte pH electrode with built-in temperature sensor, pressure resistant up to 10 bar, QSC suitable, memory for 10 calibrations, saved serial number, pH 2.000 to 12.000 (±0.004pH), temperature range from 0.0 to 60.0°C, ±0.2°C

SenTix® 950: Combined pH-electrode with plastic shaft, 3 mol/l KCl, ATC, QSC-suitable, memory for 10 calibrations, stored serial number, pH 0.000 to 14.000 (±0.004pH), temperature range 0.0 to 80.0°C, ±0.2°C

SenTix® 980: Combined pH-electrode with plastic shaft, 3 mol/l KCl, ATC, platinum wire junction, QSC-suitable, memory for 10 calibrations, stored serial number, pH 0.000 to 14.000 (±0.004pH), temperature range 0.0 to 100.0°C, ±0.2°C

TetraCon® 925: Robust, general purpose 4-electrode conductivity cell with graphite electrodes incorporating integral temperature sensor. Memory for 10 calibrations, stored serial number, measuring range 10 µS/cm to 2000 mS/cm ±0.5% of value, 0.0 to 100.0°C, ±0.2°C

LR 925/01: 2-electrode stainless steel conductivity cell for low conductivities, integrated temperature sensor, flow through vessel, memory for 10 calibrations, stored serial number, measuring range 0.01 µS/cm to 200µS/cm ±0.5% of value, 0.0 to 100.0°C, ±0.2°C

FDO® 925: Extremely fast (T99< 60 s) and precise optical DO sensor for field and laboratory applications. Handy, suits in different BOD bottles. Waterproof for depth measurement to 100m. Bevelled, air bubble repelling membrane, Green light technology for extended operation time. Insensitive against H_2S. O_2 concentration: 0.00 to 20.00mg/l, O_2 saturation: 0.0 to 200.0% O_2 partial pressure: 0.0 to 400hPa. Accuracy: ±0.5% of value.
The information for meter precision refers to the sensors' built-in, electronic, measuring technology.

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Multiparameter meters, ProfiLine Multi 3410/3420/3430

WTW

Measurement ranges

pH:	-2.000 to 20.000
mV:	-2.00 to +20.00 ±2500, ±1250

Oxygen measurement

O2 concentration:	0.00 to 20.00 mg/l
O2 saturation:	0.0 to 200.0%
O2 partial pressure:	0.0 to 400%
Conductivity measurement:	0.0mS/cm to 2000mS/cm in 5 mode 0.00µS/cm to 19.99µS/cm (at K=0.1cm^{-1}) 0.000µS/cm to 2.000µS/cm (at K=0.01cm^{-1})
Temp.:	-5.0°C to +105°C
Memory:	manual or time controlled logger, 10000 records
Power supply:	4 x 1.2V NiMH, A-Type, battery charger

Type	Description	PK	Cat. No.	
Multi 3410	meter only	1	**9.920 051**	
Multi 3410 Set 1	incl. SenTix®940	1	**9.920 052**	
Multi 3410 Set 2	incl. SenTix®940-3	1	**9.920 053**	
Multi 3410 Set 3	incl. SensoLyt®900-P incl. 6m cable	1	**9.920 054**	
Multi 3410 Set 4	incl. FDO® 925	1	**9.920 055**	
Multi 3410 Set 5	incl. FDO® 925-3 m	1	**9.920 046**	
Multi 3410 Set 6	incl. FDO® 925-P incl. 6m cable	1	**9.920 056**	
Multi 3410 Set 7	incl. TetraCon® 925	1	**9.920 057**	
Multi 3410 Set 8	incl. TetraCon® 925-3	1	**9.920 058**	
Multi 3410 Set 9	incl. TetraCon® 925-6	1	**9.920 059**	
Multi 3410 Set A	incl. LR 925/01	1	**9.920 060**	
Multi 3410 Set B	incl. SenTix® 940-3, FDO® 925-3	1	**9.920 061**	
Multi 3410 Set C	incl. SenTix® 940, TetraCon® 925	1	**9.920 062**	
Multi 3410 Set D	incl. SenTix® 940-3, TetraCon® 925-3	1	**9.920 063**	
Multi 3410 Set E	incl. SenTix® 980, LR 925/01	1	**9.920 047**	1
Multi 3420	meter only	1	**9.920 064**	
Multi 3420 Set B	incl. SenTix® 940-3, FDO 925-3	1	**9.920 065**	
Multi 3420 Set C	incl. SenTix® 940, TetraCon® 925	1	**9.920 066**	
Multi 3420 Set D	incl. SenTix® 940-3, TetraCon® 925-3	1	**9.920 067**	
Multi 3420 Set E	incl. SenTix®980, LR 925/01	1	**9.920 068**	
Multi 3420 Set H	incl. SenTix® 950, TetraCon® 925	1	**9.920 048**	2
Multi 3420 Set G	incl. SenTix® 940-3, FDO® 925-3,TetraCon® 925-3	1	**9.920 049**	
Multi 3430	meter only	1	**9.920 069**	
Multi 3430 Set C	incl. SenTix®940, TetraCon® 925	1	**9.920 070**	
Multi 3430 Set D	incl. SenTix®940-3, TetraCon® 925-3	1	**9.920 071**	
Multi 3430 Set E	incl. SenTix®980, LR 925/01	1	**9.920 072**	
Multi 3430 Set F	incl. SenTix®940, FDO 925, TetraCon® 925	1	**9.920 073**	
Multi 3430 Set G	incl. SenTix® 940-3,FDO® 925-3, TetraCon® 925-3	1	**9.920 050**	3
Multi 3430 Set K	incl. SenTix® 980, FDO® 925, TetraCon® 925	1	**6.241 477**	

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9.920 047

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9.920 048

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9.920 050

1 pH/mV/°C meter HI 2211-02/HI 2215-02

Hanna

- Extra wide LCD, displays pH/mV value and temperature simultaneously
- The stability indicator makes the calibration procedure calibration error free
- Automatic calibration at two points with pre-programmed standard buffers (pH 7.01; 4.01; 10.01)
- Automatic temperature compensation from -10°C to +120°C
- Graphic symbols guide the user through calibration and measurement

Further specifications (HI 2215-02 only):

- Resolution: 0.01 or 0.001pH
- Automatic calibration at two points with 7 pre-programmed standard buffers (pH 1.68; 4.01; 6.86; 7.01; 9.18; 10.01; 12.45) and 2 selectable buffers.
- Recording of up to 100 values with date and time via keystroke
- Data transfer to PC via USB interface

Supplied with:

HI 2211-02 is supplied with pH glass electrode HI 1131B, temperature probe, pH 7.01 and pH 4.01 buffer solution (20ml each), electrolyte solution, electrode holder, 12V adapter

Measuring range/Accuracy:

pH:	-2.00 to 16.00/±0.01
mV:	±399.9 (ISE); ±2000 (ORP)/ ±0.2 (±699.9); ±1 (2000)
°C:	-9.9 to 120/±0.5 (0.0 to 100.0)
Resolution:	
pH:	0.01 0.01 or 0.001 (HI 2215-02 only)
mV:	0.1 (±399.9); ±1 (2000)
°C:	0.1
Power supply:	12V d.c. adapter (included)
Operating temp. range:	0 to 50°C
Weight:	2.5

Type	PK	Cat. No.
HI 2211-02	1	**9.773 981**
HI 2215-02	1	**9.773 994**
Spare electrode HI 1131B for HI 2211-2 / HI 2215-02	1	**9.040 993**

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Multiparametermeters ProLab 3000/ProLab 4000

SI Analytics GmbH

- "Windows" interface and operation
- In ISE measuring mode controll of Titronic® burettes for dosing of TISAB, standards or sample.
- Flexible display of measuring values on a high resolution, bright, backlit, colour-graphics display (320x240 pixels)
- 2-channel pH/mV (galvanically isolated) inputs and dU differential measurement
- ID electrodes with automatic identification and data exchange or allocation with the meter
- Automatic user identification with electronic identity card including password entry
- Recorder functions: display of measurement against time, scalable coordinate axis
- Numerical display of measurement value via mouse click (time, data, measurement value, temperature)
- Interfaces: RS232C interface (bi-directional), USB connection (slave, bi-directional), USB master connection with direct connection (without configuration) to: USB-hub, USB-printer, USB-memory, keyboard, mouse, USB-stick

Specifications

pH measuring range:	-2.000 pH to +20.000pH -2.00 pH to +20.00pH -2.0 pH to +20.0pH
Accuracy (±1digit):	±0.002 ±0.01
mV measuring range:	-2200.0mV to +2200.0mV; -2200mV to +2200mV
Accuracy (±1digit)	±0.1mV ±1mV
ISE measuring range:	$1.0E^{-40}$ to $9.9E^{39}$ mg/l
Temperature measuring range:	-35.0°C to + 150.0°C
Accuracy (±1digit):	0.1°C
ProLab 4000 only:	
Conductivity measuring range:	0.000µS/cm to 2000mS/cm
Accuracy (±1digit):	0.5% from measurment value at an ambient temperature of 5°C to 30°C

Type	PK	Cat. No.	
ProLab 3000 DIN Set	1	**9.773 857**	1
ProLab 3000 BNC Set	1	**9.773 859**	
ProLab 4000 DIN Set	1	**9.773 861**	2
ProLab 4000 BNC Set	1	**9.773 863**	

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9.773 857

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9.773 861

E & OE.
www.wenk-labtec.com

The new inoLab® series from WTW

The new inoLab® benchtops are perfectly designed for modern laboratory surroundings. *WTW*
The key pads are clearly outlined and easy-to-operate, their smooth surfaces are
easy-to-clean and the operation is self-explanatory. All meters include a universal power supply and a convenient stand with sensor support.
If desired they can be ordered in application oriented sets including sensors and accessories.

1 2 Laboratory instrument inoLab® Multi 9310 IDS

The Multi 9310 IDS features a new technology: No longer has the meter determining the parameter but only the sensor. *WTW*
Intelligent, digital IDS sensors promotes the inoLab® Multi 9310 IDS to a perfect all-rounder.
The universal digital input is ready for all available laboratory IDS sensors. No matter whether pH, conductivity or dissolved oxygen,
when plugged into a suitable sensor the inoLab® Multi 9310 becomes either a pH, conductivity or dissolved oxygen meter.
Of course it has a modern backlit graphic display with menu-controlled user interface for easy and intuitive operation.
The mini USB-B interface provides fast data transfer to a PC. The internal memory can record up to 5000 GLP complying data including ID,
date and time. The housing and the keypad are easy-to-clean. An integrated thermal printer (58mm width) is ready for printout of the
measured data (option). Includes meter, power supply, stand and USB cable.

Specifications

Display:	backlit graphic LCD
Memory:	manual: 500/automatic: 5000
Logger:	manual/time controlled
Interface:	Mini USB-B
Power supply:	Universal power supply, 100 to 240 V, 50/60 Hz, 4 x 1.5 V AA or 4 x 1.2 V NiMH

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Type	Description	PK	Cat. No.
Multi 9310	Single instrument	1	**9.920 120**
Multi 9310 Set 1	Incl. SenTix® 940	1	**9.920 121**
Multi 9310 Set 2	Incl. SenTix® 980	1	**9.920 122**
Multi 9310 Set 3	Incl. TetraCon®925	1	**9.920 123**
Multi 9310 Set 4	Incl. FDO® 925	1	**9.920 124**
Multi 9310 Set C	Incl. SenTix® 940, TetraCon® 925	1	**9.920 125**
Multi 9310 Set K	Incl. SenTix® 980, FDO® 925 and TetraCon® 925	1	**9.920 126**
Multi 9310P*	Single instrument	1	**9.920 127**
Multi 9310P Set 1*	Incl. SenTix® 940	1	**9.920 128**
Multi 9310P Set 2*	Incl. SenTix® 980	1	**9.920 129**
Multi 9310P Set 3*	Incl. TetraCon®925	1	**9.920 130**
Multi 9310P Set 4*	Incl. FDO® 925	1	**9.920 131**
Multi 9310P Set C*	Incl. SenTix® 940, TetraCon® 925	1	**9.920 132**
Multi 9310P Set K*	Incl. SenTix® 980, FDO® 925 and TetraCon® 925	1	**9.920 133**

Laboratory instruments inoLab® Multi 9420 IDS/9430 IDS

NEW!

Securely traceable with the cutting edge inoLab® Multi 9430 IDS and inoLab® Multi 9420 IDS

WTW

- Secure measurement data
- Digital sensor recognition
- Complete documentation

High-tech made by WTW for challenging applications. Two digital inoLab® multi parameter instruments for IDS sensors for simultaneous measurement of equal or different parameters and sensors. Two (inoLab® Multi 9420 IDS) or three sensors (inoLab Multi 9430 IDS) could be connected. A large color graphic display protected by a glass plate supports the representation of readings and information, The anti-bacterial keypad minimizes the danger of microbiological contaminations. The robust lower case made of zinc diecast provides proper stand and perfect shielding against interferences. A high quality stand for alternative left or right mounting allows easy adaptation to the requirements at the working place. By end of 2013 firmware packages for ISE applications will be available.

Secure measurements
- Digital data transfer eliminates interferences, provide secure calibration data and makes documentation of sensor data easy.
- The smart sensor rating (QSC) gives information about the true condition of an IDS pH electrode and increases safety of operation
- The CMC function for pH visualizes the optimum measuring range and supports correct measurements.
- Visual display for the channel in order to provide correct allocation of channel and sensor.

Documentation according GLP/AQA
- Automatic digital recording of all sensor data for distinct documentation
- Optional user administration for clear allocation of user and measurement results
- Transfer of data as *.csv format via USB to PC, if desired transfer direct to Excel (MultiLab Importer, part of scope of delivery or as download from internet)
- Additional transfer to USB memory drive or selected printer

Compatible to conventional pH measurement
- pH module (accessory) capable of being integrated for pH, ISE and ORP electrodes with DIN or BNC plug and 4 mm banana plug. For temperature sensor.

Specifications

Measuring channels	
inoLab® Multi 9420 IDS:	2
inoLab® Multi 9430 IDS:	3
Display:	Color graphic, glass plate protected
Memory:	manual: 500/automatic: 10000
Logger:	manual/time controlled
Interface:	USB-A, Mini USB-B
Power supply:	Universal power supply, 100 to 240 V, 50/60 Hz

Type	Description	PK	Cat. No.
Multi 9420	Single instrument	1	**6.257 359** 1
Multi 9420 Set C	Incl. SenTix® 980 and TetraCon® 925	1	**7.656 860**
Multi 9430	Single instrument	1	**9.920 134** 2
Multi 9430 Set C	Incl. SenTix® 980 and TetraCon® 925	1	**6.254 755**

Separate IDS electrodes available on request.

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6.257 359

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9.920 134

Electrodes - please see page 297

1 2 pH/Ion meter SevenExcellence™ S500

NEW!

Mettler-Toledo Online

Modular professional system for measurements of pH, redox potential, conductivity, salinity/TDS and ion concentration. Fits up to three modules in any composition and order, can be expanded with additional measurement parameters at any time.
- Large, high resolution 7" colour touch display (capacitive), very clear and easy to operate
- Modularity and flexibility; up to 3 measuring modules can work in parallel, expansion to 2 or 3 channels possible
- Universal communication via 2 x USB, Ethernet (LAN) and RS232
- Plain text user interface in 10 languages with menu guidance in full sentences
- OneClick™ operation concept to quickly start frequently used functions and preferred methods
- Storage for user methods
- Highest security and GxP support (ID protection, sophisticated user management, limits/alarms, integrated radio clock, etc.)
- Intelligent sensor management (ISM®)
- Connection of stirrer, sample changer, PC, barcode reader, keyboard, local or network printer possible
- Storage up to 20000 data sets (measurements, calibrations, methods)
- 17 predefined and 60 user-defined methods
- 12 most commonly used ion types pre-programmed for convenience
- 5 point calibration (pH), 8 pre-defined and 20 user-defined buffer groups, incl. temperature chart
- uPlace™ electrode arm with perfect vertical movement
- Compatible with all METTLER TOLEDO electrodes (Recommended: ISM® electrodes)
- Capable of ion concentration measurements using a suitable Ion Selective Electrode
- Methods included for the most common incremental ion measurement techniques

S500-Basic: Includes instrument, 1 x pH/Ion expansion unit, 2 x blank expansion units, uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate.
S500-Kit: As S500-Basic, but also with InLab® Expert Pro-ISM, guide to pH measurements and 2 buffer sachetsfor pH 4.01, 7.00, 9.21 and 10.00.
S500-Bio: As S500-Kit but with InLab® Routine Pro-ISM cable kit instead of InLab® Expert Pro-ISM.
S500-F: As S500-Kit but with PerfectION™ Fluoride instead of InLab® Expert Pro-ISM.

Specifications	**Measuring range // Resolution // Accuracy**
Temperature MTC/ATC:	-30.0 to 130.0°C // 0.1°C // ±0.1°C
pH:	-2.000 to 20.000 // 0.001/0.01/0.1 // ±0.002
mV:	-2000.0 to 2000.0 // 0.1/1 // ±0.1
Rel. mV:	-2000.0 to 2000.0 // 0.1/1 // ±0.1
Ion concentration:	0 to 999 999 mg/L, ppm // 0.001to 1 // ±0.5%
	0 to 100 mol/L, % // 0.0001 to 1 // ±0.5%
	0 to 100 000 mmol/L // 0.001 to 1 // ±0.5%
	-2 to 20 pX // 0.001 to 1 // ±0.5%

Type	PK	Cat. No.
S500-Basic	1	**9.704 357**
S500-Kit	1	**9.704 358**
S500-Bio	1	**9.704 359**
S500-F	1	**9.704 360**

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1 2 pH/mV, pH/Ion, Conductivity meter, SevenExcellence™ S475

NEW!

Mettler-Toledo Online

Modular professional system for measurements of pH, redox potential, conductivity, salinity/TDS and ion concentration. Fits up to three modules in any composition and order, can be expanded with additional measurement parameters at any time.

- Large, high resolution 7" colour touch display (capacitive), very clear and easy to operate
- Modularity and flexibility; up to 3 measuring modules can work in parallel
- Universal communication via 2 x USB, Ethernet (LAN) and RS232
- Plain text user interface in 10 languages with menu guidance in full sentences
- OneClick™ operation concept to quickly start frequently used functions and preferred methods
- Storage for user methods
- Highest security and GxP support (ID protection, sophisticated user management, limits/alarms, integrated radio clock, etc.)
- Intelligent sensor management (ISM®)
- Connection of stirrer, sample changer, PC, barcode reader, keyboard, local or network printer possible
- Storage up to 20000 data sets (measurements, calibrations, methods)
- 17 predefined, 60 user-defined methods
- 5 point calibration (pH), 13 pre-defined and 20 user-defined buffer groups, incl. temperature chart
- uPlace™ electrode arm with perfect vertical movement
- Compatible with all METTLER TOLEDO electrodes (Recommended: ISM® electrodes)
- Measurement of the ion concentration with the corresponding electrode

S475-Basic: Includes 1 x pH/Ion expansion unit, 1 x pH/mV expansion unit, 1 x conductivity expansion unit, uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate.

Specifications	**Measuring range // Resolution // Accuracy**
Temperature range MTC/ATC:	-30.0 to 130.0°C // 0.1°C // ±0.1°C
pH:	-2.000 to 20.000 // 0.001/0.01/0.1 // ±0.002
mV:	-2000.0 to 2000.0 // 0.1/1 // ±0.1
Rel. mV:	-2000.0 to 2000.0 // 0.1/1 // ±0.1
ISFET pH:	0.000 to 14.000 // 0.001/0.01/0.1 // ±0.05
Ion concentration:	0 to 999 999 mg/L, ppm // 0.001to 1 // ±0.5%
	0 to 100 mol/L, % // 0.0001 to 1 // ±0.5%
	0 to 100 000 mmol/L // 0.001 to 1 // ±0.5%
	-2 to 20 pX // 0.001 to 1 // ±0.5%
Conductivity:	0.001 to 999999 µS/cm // 0.001 to 1 // ±0.5%
	0.001 to 2000 mS/cm // 0.001 to 1 // ±0.5%
	0.001 to 200 S/m // 0.0001 to 1 // ±0.5%
	0.001 to 200000 mS/m // 0.0001 to 1 // ±0.5%
	0.1 to 999999 µS/m // 0.001 to 1 // ±0.5%
TDS:	0.001 to 1000 g/L , ppt // 0.001 to 1 // ±0.5%
	0.001 to 999999 mg/L , ppm // 0.001 to 1 // ±0.5%
Salinity:	0.01 to 80.0 psu , ppt // 0.01 to 0.1 // ±0.5%
Resistivity:	0.01 to 100.0 MΩxcm // 0.0001 to 1 // ±0.5%
	0.01 to 999999 Ωxcm // 0.01 to 1 // ±0.5%
Conductivity Ash:	0.000 to 2022% // 0.001 to 1 // ±0.5%

Type	**PK**	**Cat. No.**
S475	1	**9.704 364**

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1 Compact balances Type EMB

Kern & Sohn GmbH

Economically priced, battery-operated models. Large LCD readout with 16mm high digits.
"Weigh-in" function simplifies mixing. Supplied with 4 x 1.5V AA batteries.
With d.c. power connection socket (accessory mains adapter available at extra cost).
Auto-off function activates after 3 minutes without use for saving battery power.

Dimensions WxDxH: 170 x 240 x 38mm
Net weight: approx. 600g

Type	Capacity g	Readability g	Reproducibility ± g	Linearity ± g	Plate diam. mm	PK	Cat. No.
EMB 100-3	100	0.001	0.001	0.003	82	1	**6.238 426**
EMB 200-2	200	0.01	0.01	0.02	105	1	**9.901 320**
EMB 600-2	600	0.01	0.01	0.03	105	1	**9.901 321**
EMB 1000-2	1000	0.01	0.01	0.03	150	1	**6.235 728**
EMB 500-1	500	0.1	0.1	0.2	150	1	**9.901 322**
EMB 1200-1	1200	0.1	0.1	0.3	150	1	**9.901 323**
EMB 5.2K1	5200	1.0	1.0	3.0	150	1	**9.901 324**
EMB 2200-0	2200	1.0	1.0	2.0	150	1	**9.901 371**
EMB 5.2 K 5	5200	5.0	5.0	10.0	150	1	**9.901 372**

2 Pocket Balances Type JE

OHAUS

Simple, compact and handy. Ideal for precise weighing in the field.
- Automatic calibration, using external weight
- Large, high-contrast, liquid crystal display with back light
- Robust plastic housing
- Auto-off function prolongs battery life
- Includes protective cover and batteries
- Dimensions (WxDxH): 136 x 83 x 20mm

Type	Capacity g	Readability g	Plate dimensions mm	PK	Cat. No.
JE120	120	0.1	83 x 76	1	**9.902 413**
JE250	250	0.1	83 x 76	1	**9.902 414**
JE500	500	0.1	83 x 76	1	**9.902 415**

3 Portable electronic balances, CS series

OHAUS

Compact and practical with choice of weighing ranges from 200g to 5000g
- Sleek, low-profile housing
- Stainless steel weighing pan
- Large, 11mm high digital display
- Energy-saving, automatic switch-off
- Robust plastic construction
- Battery or mains operation

Supplied with 3 x 1.5V AAA batteries and mains adapter.

Dimensions WxDxH: 135 x 193 x 39mm
Accessories: 1050ml plastic container

Type	Capacity g	Readability g	Plate dimensions mm	PK	Cat. No.
CS200	200	0.1	146 x 133	1	**9.950 222**
CS2000	2000	1.0	146 x 133	1	**9.950 223**
CS5000	5000	1.0	146 x 133	1	**9.950 224**

Accessories for Portable electronic balances, CS series

OHAUS

Description	PK	Cat. No.
Plastic container, 1050ml	1	**9.947 300**
Stainless steel weighing pan cover	1	**9.947 302**

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2

1 2 Portable Balances, Scout® Pro series

OHAUS

The Scout® Pro offers simple operation and higher resolution to accommodate more applications than ever before:

- High contrast, LCD display.
- Parts counting, percentage weighing, check weighing, totalisation, weigh-below facility, display-hold-function
- Simple, two-button operation
- Density determination kit for automatic specific gravity calculations (optional accessory)
- Optional USB or RS232 interface accessories (cable included)
- Battery or AC operation (AC adapter included)
- 1 mg readability model supplied with draught shield
- Energy saving, auto switch-off
- Below-balance weighing (weighing hook included)

Type	Capacity g	Readability g	Plate dimensions mm	PK	Cat. No.
SPU123	120	0.001	90 dia.	1	**9.902 420**
SPU202	200	0.01	120 dia.	1	**9.902 421**
SPU402	400	0.01	120 dia.	1	**9.902 422**
SPU401	400	0.1	120 dia.	1	**9.902 423**
SPU602	600	0,01	120 dia.	1	**9.902 428**
SPU601	600	0.1	165 x 142	1	**9.902 424**
SPU2001	2000	0.1	165 x 142	1	**9.902 425**
SPU4001	4000	0.1	165 x 142	1	**9.902 426**
SPU6000	6000	1	165 x 142	1	**9.902 427**
SPU6001	6000	0,1	165 x 142	1	**9.902 429**

3

3 Balances, electronic, precision, 572 series

Kern & Sohn GmbH

Weighing speed adjustable in two stages. Unit transfer to bullion and non-metric units of weight. With calibration adjustment programme. With net/total weighing. Piece counting: 1, 5, 10 or 20 reference pieces. Percentage weighing. Bi-directional RS232C data output supplied.
Ultra low-profile, metal casing (WxDxH): 150 x 310 x 60mm. Supplied with mains adapter for 230V 50/60Hz.
Balances can be alternatively operated by accessory batteries.
Also available with DKD certified calibration weight, thermal printer, statistic printer, rechargeable battery pack or label printer at additional cost.

Type	Capacity g	Readability g	Reproducibility ± g	Linearity ± g	Plate dimensions mm	PK	Cat. No.
572-31*	301	0.001	0.001	0.005	106 diam.	1	**9.900 990**
572-32*	421	0.001	0.001	0.005	106 diam.	1	**6.229 315**
572-33	1610	0.01	0.01	0.03	150 diam.	1	**9.901 333**
572-35	2410	0.01	0.01	0.03	150 diam.	1	**9.901 335**
572-37	3010	0.01	0,01	0.05	160 x 200	1	**6.227 789**
572-45	12100	0.05	0.05	0.15	160 x 200	1	**9.900 991**
572-49	16100	0.1	0.1	0.3	160 x 200	1	**9.901 336**
572-57	24100	0.1	0.1	0.3	160 x 200	1	**9.901 354**

*with removable draught shield

1 Precision Balances Pioneer™

Designed to meet simple weighing needs at best price *OHAUS*

- Weighing (18 units + 1 custom unit), parts counting, percentage weighing
- LCD readout
- Mains power
- RS232 for sending balance ID and weight
- Solid, diecast, metal housing, stainless steel pan
- Fixed, integral, weigh-below hook, all-glass draught shield with 3 sliding doors for 1mg models, front levelling bubble, menu and calibration locks
- EC Type approved versions also available (models ending in M)

1

Type	Capacity g	Readability	Plate diam. mm	Description	PK	Cat. No.
PA213	210	1mg	120	external calibration	1	**9.902 130**
PA213C	210	1mg	120	internal calibration	1	**9.902 131**
PA213CM	210	1mg	120	internal calibration	1	**9.902 132**
PA413	410	1mg	120	external calibration	1	**9.902 133**
PA413C	410	1mg	120	internal calibration	1	**9.902 134**
PA413CM	410	1mg	120	internal calibration	1	**9.902 135**
PA512	510	0.01g	180	external calibration	1	**9.902 136**
PA512C	510	0.01g	180	internal calibration	1	**9.902 137**
PA512CM	510	0.01g	180	internal calibration	1	**9.902 138**
PA2102	2100	0.01g	180	external calibration	1	**9.902 139**
PA2102C	2100	0.01g	180	internal calibration	1	**6.234 850**
PA2102CM	2100	0.01g	180	internal calibration	1	**9.902 141**
PA4102	4100	0.01g	180	external calibration	1	**9.902 142**
PA4102C	4100	0.01g	180	internal calibration	1	**9.902 143**
PA4102CM	4100	0.01g	180	internal calibration	1	**9.902 144**
PA4101	4100	0.1g	180	external calibration	1	**9.902 145**
PA4101C	4100	0.1g	180	internal calibration	1	**9.902 146**
PA4101CM	4100	0.1g	180	internal calibration	1	**9.902 147**

Precision balance KB

Convenience model at an economical price *Kern & Sohn GmbH*

- for applications that require verification, please order verification at the same time, verification at a later date is not possible.
- user guidance step by step in the display
- freely programmable weighing units, e.g. display directly in special units such as the length of thread g/m, paper weight g/m², or similar
- precise counting. The automatic reference optimization gradually improves the average value of the piece weighing
- numerical tare deduction for container weighing. Useful when checking loads
- ring-shaped draft shield standard, 90 x 40mm dia. x ht. for models with readability d = 0.001g

Also available with DKD certified calibration weight, thermal printer, statistics printer at additional cost.

2

9.901 403

Type	Capacity g	Readability g	Reproducibility ± g	Linearity ± g	Plate dimensions mm	PK	Cat. No.
KB 120-3N	121	0.001	0.001	0.003	81 diam.	1	**6.234 511**
KB 240-3N	241	0.001	0.001	0.003	81 diam.	1	**6.235 214**
KB 360-3N	361	0.001	0.001	0.003	81 diam.	1	**9.901 402**
KB 1200-2N	1210	0.01	0.01	0.03	130 x 130	1	**6.233 613**
KB 2000-2N	2010	0.01	0.01	0.03	130 x 130	1	**6.231 607**
KB 2400-2N	2410	0.01	0.01	0.03	130 x 130	1	**9.901 403** 2
KB 3600-2N	3610	0.01	0.01	0.05	130 x 130	1	**9.901 404**
KB 10K0.05N	10100	0.05	0.05	0.15	150 x 170	1	**9.901 405**
KB 10000-1N	10100	0.1	0.1	0.3	150 x 170	1	**9.901 406**
KB 650-2NM	650	0.01	0.01	0.03	130 x 130	1	**9.901 407**
KB 6500-1NM	6500	0.1	0.1	0.2	150 x 170	1	**9.901 409**

1

9.901 329

Precision balance PLE-N

NEW!

Low-cost precision balance with wide range of functions *Kern & Sohn GmbH*

- Compact size, practical for small spaces
- Percentage determination: makes it possible to store a given weight value (100%) and to determine deviations from this target value
- Weighing with tolerance range (checkweighing): Input of an upper/lower limit value. A visual signal assists with portion division, dispensing or grading
- Weighing sum memory adds individual weighing results
- Ring-shaped draft shield standard, only for models with weighing plate sizes dia. 80mm. Removable metal cover with pipette opening. Weighing space (Ø x H): 125 x 70mm

Specifications

Overall dimensions, without draft shield (WxDxH):	185 x 250 x 80mm
Dimensions weighing space (Ø x H):	125 x 70mm
Weight:	approx: 2.5kg

2

9.901 356

Type	Capacity g	Readability g	Reproducibility ± g	Linearity ± g	Plate diam. mm	PK	Cat. No.
PLE 420-3N	420	0.001	0.002	0.004	80	1	**9.901 329** 1
PLE 4200-2N	4200	0.01	0.02	0.04	135	1	**9.901 356** 2
ALT-A02 Density set						1	**9.900 968**

3

3 Precision balances type EW-N and EG-N

High quality laboratory balances, housed in a robust and stable plastic casing. *Kern & Sohn GmbH*
With bar graph capacity display which shows the current available weighing range remaining.
Fitted with protective working cover for casing and keyboard. Suitable for EC verification (factory option at additional cost - details on request). Convenient, internal automatic calibration (only type EG-N) as well as extensive configuration and a menu of applications. Draught shield supplied with all 0.001g readability models. Additionally supplied with parts counting facility, percentage weighing function, flush-mounted platform. Optional available: Thermal printer, statistics printer, internal Akku-Pack, DKD calibration certificate for balance and optional test weight.

Type	Capacity g	Readability g	Reproducibility ± g	Linearity ± g	Plate dimensions mm	External dimensions (W x D x H) mm	PK	Cat. No.
EW220-3NM	220	0.001	0.001	0.002	Ø 118	182 x 235 x 75	1	**9.901 007**
EW420-3NM	420	0.001	0.001	0.003	Ø 118	182 x 235 x 75	1	**9.901 008**
EW620-3NM	620	0.001	0.001	0.003	Ø 118	182 x 235 x 75	1	**9.901 009**
EW820-2NM	820	0.01	0.01	0.01	170 x 142	182 x 235 x 75	1	**9.901 010**
EW2200-2NM	2200	0.01	0.01	0.01	180 x 160	192 x 265 x 87	1	**9.901 011**
EW4200-2NM	4200	0.01	0.01	0.02	180 x 160	192 x 265 x 87	1	**9.901 012**
EW6200-2NM	6200	0.01	0.01	0.03	180 x 160	192 x 265 x 87	1	**9.901 013**
EW12000-1NM	12000	0.1	0.1	0.2	180 x 160	192 x 265 x 87	1	**9.901 014**
EG220-3NM*	220	0.001	0.001	0.002	Ø 118	182 x 235 x 75	1	**9.901 018**
EG420-3NM*	420	0.001	0.001	0.003	Ø 118	182 x 235 x 75	1	**9.901 019**
EG620-3NM*	620	0.001	0.001	0.004	Ø 118	182 x 235 x 75	1	**9.901 015**
EG2200-2NM*	2200	0.01	0.01	0.01	180 x 160	192 x 265 x 87	1	**9.901 016**
EG4200-2NM*	4200	0.01	0.01	0.02	180 x 160	192 x 265 x 87	1	**9.901 017**

*calibratable
Outer dimensions without wind shield.

1 Precision balance PKT

NEW!

Touchscreen laboratory balance with extensive range of functions

Kern & Sohn GmbH

- Large touch-sensitive, backlit screen with very good contrast for easy operation and convenient reading, digit height 15mm, screen diagonal 4.3" (approx. 109mm): Easy input of text and values, clear menu structure, weighing with tolerance range (checkweighing), 40 memories for each mode
- Robust metal housing, ensures stability, protects the weighing technology elements and is robust enough to cope with everyday use
- Ring-shaped draft shield standard for models with weighing plate sizes of 106mm, weighing space (Ø x H): 157mm x 57mm

Modes: weighing, counting, dispensing, recipe weighing, checkweighing, totalising with daily total, percentage determination, animal weighing, surface weight
Functions: capacity display, dispensing assistance (subtractive, additive), Net/Gross display, permanently on, variable reference quantity, automatic reference optimisation, tare deduction numerical or from the memory unit, input of item or batch description, operator etc., freely programmable weighing unit, e.g. display directly in special units such as length of thread g/m, paper weight g/m2, or similar, date/time, statistical function, GLP printout, individual printout configuration

Specifications

Overall dimensions, without draught shield (WxDxH):	180 x 310 x 90 mm
Dimensions weighing space (Ø x H):	157 x 57 mm
Permissible ambient temperature:	10°C/40°C

Type	Capacity g	Readability g	Reproducibility ± g	Linearity ± g	Plate dimensions mm	PK	Cat. No.
PKT 300-3	301	0.001	0.002	0,005	Ø 106	1	**9.901 423**
PKT 420-3	421	0.001	0.002	0,005	Ø 106	1	**9.901 424**
PKT 3000-2	3010	0.01	0.02	0.05	Ø 150	1	**9.901 425**
PKT 12K0.05	12100	0.05	0.05	0.15	160 x 200	1	**9.901 426**
PKT 16K0.1	16100	0.1	0.1	0.3	160 x 200	1	**9.901 427**
PKT 24K0.1	24100	0.1	0.1	0.3	160 x 200	1	**9.901 428**

Precision balance Type PLS

Kern & Sohn GmbH

- ergonomically optimised keypad for left and right-handed users
- ring-shaped glass draught shield standard for all models with 0.001g resolution.
  Removable metal cover with pipette opening. Weighing space 150mm dia., height 60mm
- count/weight switchover at the press of a button
- precise counting. The automatic optimisation of reference weight gradually improves the average value of the piece weight.
  The automatic optimisation of reference weight gradually improves the average value of the piece weight
- weighing with tolerance range Input of an upper/lower limit value. A visual signal assists with portion division, dispensing or grading
- percentage determination makes it possible to store a given weight value (100%) and to determine deviations from this target value in %
- density determination of liquids and solids with immediate display of the density on the display
- pre-Tare function for manual deduction of a known container weight. Useful for checking fill-levels

Type	Weighing range g	Readability g	Reproducibility ± g	Linearity ± g	Plate dimensions mm	PK	Cat. No.
PLS 420-3F	420	0.001	0.001	0.004	Ø 110	1	**9.901 442** 2
PLS 720-3A	720	0.001	0.001	0.002	Ø 110	1	**9.901 413**
PLS 1200-3A	1200	0.001	0.001	0.002	Ø 110	1	**9.901 414**
PLS 4200-2F	4200	0.01	0.01	0.04	Ø 160	1	**9.901 422**
PLS 6200-2A	6200	0.01	0.01	0.03	Ø 160	1	**9.901 418** 3
PLS 8000-2A	8000	0.01	0.01	0.03	Ø 160	1	**9.901 443**
PLS 20000-1F	20000	0.1	0.1	0.4	200 x 175	1	**9.901 444** 4

2

9.901 442

3

9.901 418

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9.901 444

Brushes please see page 1135.

1

9.901 357

Precision balance Type PFB

NEW!

Kern & Sohn GmbH

Low-cost model based on a concept of easy use: All primary functions have their own key on the keypad
- Calibratable
- Compact size, practical for small spaces
- Capacity display: A bar lights up to show how much of the weighing range is still available
- Level indicator and foot screws to level the balance precisely, fitted as standard, to give the most accurate weighing results
- Draft shield standard for models with weighing plate sizes diam. 120mm. Removable metal cover with pipette opening.
- Separate second display standard for models PFB 600-1M and PFB 6000-0M. Suitable for direct sales to the public when the verification value is the same as the readout. Large backlit LCDdisplay, Digit height 16 mm. Interface cable to the balance, Cable length approx. 1 m, and Mains adapter external standard.
  Dimensions (WxDxH): 250 x 180 x 105mm

2

7.658 057

Specifications

Overall dimensions, without draft shield (WxDxH):	200 x 260 x 87mm
Dimensions weighing space (WxDxH):	158 x 143 x 64mm
Weight:	approx: 2kg

Type	Capacity g	Readability g	Reproducibility ± g	Linearity ± g	Verifiable readability g	Plate dimensions mm	PK	Cat. No.
PFB 600-2M	600	0.01	0.01	0.02	0.1	Ø 120	1	**9.901 357** 1
PFB 600-1M	600	0.1	0.1	0.1	0.1	Ø 120	1	**9.901 358**
PFB 6000-1M	6000	0.1	0.1	0.3	1	155 x 145	1	**7.658 057** 2
PFB 6000-0M	6000	1	1	1	1	155 x 145	1	**9.901 359**

„Get in touch with the future“

KERN WAAGEN · GEWICHTE · BALANCES · WEIGHTS

KERN – Precision in weighing technology

Custom-made weighing solutions with the latest weighing technology for highest demands - through the **KERN Single Cell Technology.**

Efficiency and user friendliness - use the many advantages of the innovative **KERN touch-screen models.**

We can supply this manufacturer's whole product range !

partner of the LLG Lab Logistics Group

KERN WAAGEN · GEWICHTE · BALANCES · WEIGHTS

1 Platform balance "Precise" Type IKT

NEW!

Kern & Sohn GmbH

1

- Innovative touchscreen: Large touch-sensitive, backlit screen (digit height 18mm) with very good contrast for easy operation and convenient reading
- Maximum transparency: All function keys are labelled with plain text which ensures that they are easily understood. The menu tree overlay in the info bar allows you to see at a glance which function is currently in use
- No more errors or lost time through keys which have several functions or unclear markings
- Large keys, which can also be operated while wearing gloves
- Convenient recipe weighing: 5 recipes each with 7 components can be stored in plain text
- Permissible ambient temperature 10°C/40°C
- only IKT-M: with EC type approval

Standard Data interfaces:
- Data interface RS-232 to connect the balance to a printer, PC or network
- Control outputs (optocoupler, digital I/O) to connect relays, signal lamps, valves etc. (35V/80mA)

Type	Readability g	Capacity g	Min. piece weight (PW min) g/piece	Plate dimensions mm	PK	Cat. No.
IKT 3K0.01S	0.01	3000	0.01	228 x 228	1	**9.901 460**
IKT 8K0.05	0.05	8000	0.05	305 x 315	1	**9.901 461**
IKT 10K0.1S	0.1	10000	0.1	228 x 228	1	**9.901 462**
IKT 30K0.1	0.1	30000	0.1	305 x 315	1	**9.901 463**
IKT 60K0.2L	0.2	60000	0.2	450 x 350	1	**9.901 464**
IKT 6K1M	1.0	6000	1	305 x 315	1	**9.901 465**
IKT 12K2M	2.0	12000	2	305 x 315	1	**9.901 466**
IKT 30K5M	5.0	30000	5	305 x 315	1	**9.901 467**
IKT 60K10LM	10.0	60000	10	450 x 350	1	**9.901 468**

Precision balance "Precise" Type PBS/PBJ

NEW!

Kern & Sohn GmbH

2

6.255 611

- only PBJ: Automatic internal adjustment in the case of a change in temperature or time-controlled at defined intervals
- Metal housing: robust and sturdy
- Large backlit LCDdisplay, digit height 14 mm
- Dosage aid: High-stability mode and other filter settings can be selected
- Weighing with tolerance range (checkweighing): Input of an upper/lower limit value. A visual signal assists with portion division, dispensing or grading
- Totalizing of individual weighing results
- Identification number: 4 numeric positions, printed on calibration protocol
- Automatic data output to the PC/printer every time the balance is steady
- Draft shield standard, on all models with readout d = 0.001 g, weighing space (WxDxH): 180 x 193 x 87mm

3

7.910 128

Single-cell advanced technology:
- Fully automatic manufactured weighing cell from one piece of material
- Stable temperature behaviour
- Short stabilisation time: 3 sec
- Shock proof construction
- High corner load performance

Specifications

Overall dimensions, without draft shield (WxDxH):	209 x 322 x 78mm
Dimensions weighing space (WxDxH):	180 x 193 x 87mm
Permissible ambient temperature:	10°C/30°C
Weight:	approx. 3kg

Type	Readability g	Capacity g	Reproducibility ± g	Linearity ± g	Plate dimensions mm	PK	Cat. No.	
PBS 620-3M	0,001	620	0,001	0,002	108 x 105	1	**7.657 889**	
PBS 4200-2M	0,01	4200	0,01	0,02	170 x 180	1	**6.255 611**	2
PBS 6200-2M	0,01	6200	0,01	0,02	170 x 180	1	**9.901 445**	
PBJ 620-3M	0,001	620	0,001	0,002	108 x 105	1	**7.910 128**	3
PBJ 4200-2M	0,01	4200	0,01	0,02	170 x 180	1	**6.245 038**	
PBJ 6200-2M	0,01	6200	0,01	0,02	170 x 180	1	**6.236 719**	
PBJ 8200-1M	0,1	8200	0,1	0,2	170 x 180	1	**6.257 002**	

1

1 Analytical balance KERN ABS-N/ABJ-NM

NEW!

The bestseller in analytical balances, now with high-quality single-cell weighing system and EC type approval (Type ending M) *Kern & Sohn GmbH*

- Only ABJ-N: Automatic internal adjustment in the case of a change in temperature >2°C or time-controlled every 4 hours
- Only ABS-N: Adjusting program CAL, external test weights at an additional price
- Dosage aid: High-stability mode and other filter settings can be selected
- Simple recipeweighing and documenting with a combined tare/print function. In addition, the mixing ingredients for the recipe are numbered automatically and printed out with their corresponding number and weight value
- Identification number: 4 numeric positions, printed on calibration protocol
- Automatic data output to the PC/printer each time the balance reaches a steady state

Single-cell advanced technology:
- Fully automatic manufactured weighing cell from one piece of material
- Stable temperature behaviour
- Short stabilisation time: Steady weight values within approx. 3sec under laboratory conditions
- Shock proof construction
- High corner load performance

Specifications

Overall dimensions (WxDxH):	210 x 340 x 325mm
Dimensions weighing space (WxDxH):	174 x 162 x 227mm
Permissible ambient temperature:	10°C/30°C
Net weight:	approx. 6kg

Type	Capacity g	Readability mg	Reproducibility ± mg	Linearity ± mg	Plate diam. mm	PK	Cat. No.
ABS 80-4N	80	0.1	0.2	0.3	91	1	**9.901 451**
ABS 120-4N	120	0.1	0.2	0.3	91	1	**9.901 452**
ABS 220-4N	220	0.1	0.2	0.3	91	1	**9.901 453**
ABS 320-4N	320	0.1	0.2	0.3	91	1	**9.901 454**
ABJ 80-4NM	80	0.1	0.2	0.3	91	1	**9.901 455**
ABJ 120-4NM	120	0.1	0.2	0.3	91	1	**9.901 456**
ABJ 220-4NM	220	0.1	0.2	0.3	91	1	**6.257 572**
ABJ 320-4NM	320	0.1	0.2	0.3	91	1	**9.901 457**

2

2 Analytical balances AES-N/AEJ-NM

NEW!

Compact high-end semi micro balance with useful pipette calibration program *Kern & Sohn GmbH*

- only AEJ-NM: Automatic internal adjustment in the case of a change in temperature > 0.8°C or time-controlled every 3 hours
- Intuitive pipette calibration function to ensure data integrity and to minimise the risks in the daily work with your pipettes
- Vmin: 10% of the volume, Va: Arithmetic mean, Es: Systematic error, Vmax: 100 of the volume, Sr: Standard deviation
- GLP/ISO record keeping of weight values with date, time and serial number
- Higher weighing speed by switching off the last digit
- Totalizing of weights (manual/automatic)
- Modern all glass draft wind shield for optimal visibility of the weighing object
- Dispensing mode: By pressing one key you can set all relevant parameters for this dispensing process
- Large backlit LCD display, digit height 17 mm
- Calibratable (only AEJ-NM)

Specifications

Overall dimensions (WxDxH):	206 x 335 x 335 mm
Dimensions weighing space (WxDxH):	168 x 160 x 225 mm
Permissible ambient temperature:	18°C/30°C
Net weight:	approx. 5.4kg

Type	Weighing range g	Readability mg	Reproducibility ± mg	Linearity ± mg	Plate diam. mm	PK	Cat. No.
AES 100-4N	160	0.1	0.2	0.2	85	1	**9.900 945**
AES 200-4N	220	0.1	0.2	0.2	85	1	**9.900 946**
AEJ 100-4NM	160	0.1	0.2	0.3	85	1	**9.900 947**
AEJ 200-4NM	220	0.1	0.2	0.3	85	1	**9.900 948**
AEJ 200-5NM	80 / 220	0.01 / 0.1	0.04 / 0.1	0.1 / 0.2	85	1	**9.900 949**

1 Balances, electronic, analytical, "Precise" ABT series

1

Kern & Sohn GmbH

Analytical and semi-microbalances which are suitable for verification.
All models have automatic calibration adjustment function by internal, motor-driven, calibration weight. It is possible to log ISO/GLP-compliant weighing or calibration data at any time via an accessory printer (not supplied) or data interface (bi-directional RS232-C).
Additionally, the balances have formulation, piece counting and percentage determination functions, as well as a flush-mounted weighing platform. All models are supplied with a modern, all-glass draught shield with sliding doors to the left, right and top.
Also available with DKD certified, calibration weight, ionizer, thermal printer, statistic printer at additional cost.

Single-cell advanced technology:
- Fully automatic manufactured weighing cell from one piece of material
- Stable temperature behaviour
- Short stabilisation time: Steady weight values within approx. 5 sec under laboratory conditions
- Shock proof construction
- High corner load performance

Weighing pan, stainless steel:	80mm dia.
Weighing chamber (WxDxH):	168 x 172 x 223mm
Dimensions (WxDxH):	217 x 356 x 338mm
Mains adapter:	220V

Type	Weighing range g	Readability mg	Reproducibility ± mg	Linearity ± mg	Plate diam. mm	PK	Cat. No.
ABT 120-4M	120	0.1	0.1	0.2	80	1	**9.900 955**
ABT 220-4M	220	0.1	0.1	0.2	80	1	**9.900 956**
ABT 320-4M	320	0.1	0.1	0.3	80	1	**9.900 957**
ABT 100-5M	101	0.01	0.05	0.15	80	1	**6.241 274**
ABT 120-5DM	42 / 120	0.01 / 0.1	0.02 / 0.1	0.05 / 0.2	80	1	**9.900 958**
ABT 220-5DM	82 / 220	0.01 / 0.1	0.05 / 0.1	0.1 / 0.2	80	1	**9.900 959**

2 Analytical balance Pioneer™

2

OHAUS

Designed to meet simple weighing needs at the best price
- Weighing (18 units + 1 custom unit), parts counting, percentage weighing
- LCD readout
- Mains power
- RS232 for outputting balance ID and weight
- Solid, diecast, metal housing, stainless steel pan
- Fixed, integral, weigh-below hook, all-glass draught shield with 3 sliding doors, front levelling bubble, menu and calibration locks
- EC Type approved versions also available (models ending in M)

Type	Weighing range g	Readability mg	Plate diam. mm	PK	Cat. No.
PA64	65	0.1	90	1	**6.234 827**
PA64C	65	0.1	90	1	**9.902 151**
PA64CM	65	0.1	90	1	**9.902 152**
PA114	110	0.1	90	1	**6.233 682**
PA114C	110	0.1	90	1	**9.902 154**
PA114CM	110	0.1	90	1	**9.902 155**
PA214	210	0.1	90	1	**9.902 156**
PA214C	210	0.1	90	1	**6.233 795**
PA214CM	210	0.1	90	1	**9.902 158**

1 Analytical and Precision Balances Explorer®

NEW!

OHAUS

Highest performance, most technically advanced balance from OHAUS
- High resolution multi-lingual colour VGA touch display with icons for simple operation
- Programmable multi-functional touch-free sensors for cleanliness, speed and safety
- Multiple application modes plus library for storage of personal application settings
- EC Type approved versions also available (models ending with M)

Application: Weighing (17 units + custom units), Parts Counting, % weighing, Animal/Dynamic Weighing, Checkweighing, Filling, Totalization, Formulation, Differential weighing, Density determination, Peak hold, Ingredient costing, Pipette adjustment, Gross/Net/Tare Weighing
Display: High resolution 14.5cm (diagonal) full colour VGA touch display including QWERTY and numeric key pads plus weighing capacity indication
Operation: Mains Operation
Communication: Easy access communication ports (USB, RS232) plus 3rd communication port slot (Ethernet or 2nd RS232). GLP and GMP including date and time, Direct Data Transfer
Construction: Metal base, ABS top housing, stainless steel pan, glass draftshield with flip-top, replaceable in-use cover
Design features: 3-door draftshield with removable panels on 0.1mg and 1mg models with draftshield light. Modular display design with adjustable angle (attach to base, wall or optional tower). AutoCal automatic internal calibration. Level assist feature with illuminated level indicator. Selectable environmental and auto-print settings. Integral weigh below hook. Protective in-use cover. Software lock switch

Type	Capacity g	Readability	Plate dimensions mm	PK	Cat. No.
EX124	120	0.1 mg	Ø 90	1	**9.902 370**
EX224	220	0.1 mg	Ø 90	1	**9.902 371**
EX224M	220	0.1 mg	Ø 90	1	**9.902 372**
EX324	320	0.1 mg	Ø 90	1	**9.902 373**
EX324M	320	0.1 mg	Ø 90	1	**9.902 374**
EX223	220	1 mg	Ø 130	1	**9.902 375**
EX423	420	1 mg	Ø 130	1	**9.902 376**
EX423M	420	1 mg	Ø 130	1	**9.902 377**
EX623	620	1 mg	Ø 130	1	**9.902 378**
EX1103	1100	1 mg	Ø 130	1	**9.902 379**
EX1103M	1100	1 mg	Ø 130	1	**9.902 380**
EX2202	2200	0.01 g	180 x 210	1	**9.902 381**
EX4202	4200	0.01 g	180 x 210	1	**9.902 382**
EX4202M	4200	0.01 g	180 x 210	1	**9.902 383**
EX6202	6200	0.01 g	180 x 210	1	**9.902 384**
EX10202	10200	0.01 g	180 x 210	1	**9.902 385**
EX10202M	10200	0.01 g	180 x 210	1	**9.902 386**
EX6201	6200	0.1 g	180 x 210	1	**9.902 387**
EX10201	10200	0.1 g	180 x 210	1	**9.902 388**
EX10201M	10200	0.1 g	180 x 210	1	**9.902 389**

1

Accessories for analytical balance Explorer®

NEW!

OHAUS

Type	PK	Cat. No.
Second RS232 interface	1	**9.902 360**
Ethernet interface	1	**9.902 361**
Terminal extension cable	1	**9.902 362**
Density determination kit	1	**9.902 363**
Tower kit	1	**9.902 364**
Foot switch	1	**9.902 365**
Draft Shield Kit	1	**9.902 366**
USB Interface Cable (Type A to B)	1	**9.902 368**
Theft protection clamp	1	**9.947 316**

1 Semi-Micro and Analytical Balances Discovery

The Professional´s Choice for Analytical Applications up to 0.01mg *OHAUS*

- Rear mount load cell for ultimate accuracy
- Advanced AutoCal™ (2 internal calibration weights)
- 2 line backlit LCD & SmarText™ software to guide user through set-up and applications

Application: Weighing (11 units + 1 custom unit), parts counting, checkweighing, percentage weighing, totalisation, dynamic weighing, gross/net/tare, pipettecalibration, density determination, statistics, high point

Display: 2-line backlit LCD

Communication: RS232, GLP including date and time

Construction: Steel and shatter proof glass, stainless steel weighing pan

Design Features: Fixed integral weigh-below hook, 3-door draught shield, environmental settings, in-use display cover, advanced AutoCal™ (2 internal weights), SmarText™ software

EC Type approved versions also available.

1

Type	Weighing range g	Readability mg	Plate diam. mm	PK	Cat. No.
DV114C	110	0.1	90	1	**9.902 160**
DV 114CM**	110	0.1	90	1	**9.902 161**
DV214C	210	0.1	90	1	**6.232 314**
DV 214CM**	210	0.1	90	1	**6.233 833**
DV 314C	310	0.1	90	1	**9.902 164**
DV 314CM**	310	0.1	90	1	**9.902 165**
DV 215CD*	81/210	0.01/0.1	90	1	**6.229 783**
DV 215CDM* **	81/210	0.01/0.1	90	1	**6.227 197**

*Autoranging
**EC Type approved

partner of the LLG Lab Logistics Group

We can supply this manufacturer's whole product range !

OHAUS®

1

1 Halogen Moisture Analyser MLB 50-3N

Kern & Sohn GmbH

- 2 Halogen quartz glass heaters, each 400W
- 10 sample dishes included
- 3 displays for temperature, drying in %, drying time
- Application table. Various examples in the user manual
- CAL adjustment programme. External calibration weights are available at additional cost
- The last value measured remains on the display until it is replaced by a new measurement
- RS 232 interface

Optional accessories: aluminum sample plates , round fiber-glass filter, temperature calibration set, thermo-printer, DKD-calibration certificate for analyzer and optional test weight.

Specifications

Readability:	0.01%/0.001g
Weighing range, max:	50g
Reproducibility, weight of sample 2 g:	0.5%
Reproducibility, weight of sample 10 g:	0.02%
Linearity:	±0.003g
Temperature range:	+50 to +160°C
Dimensions (WxDxH):	201 x 335 x 156mm

Type	PK	Cat. No.
MLB 50-3N	1	**9.901 400**

2

2 Halogen Moisture Analyser DBS 60-3

NEW!

Modern moisture analyser with 10 memories and graphic display

Kern & Sohn GmbH

- Halogen quartz glass heater 400 W
- Backlit LCD display, digit height 15 mm: Previous drying time, current temperature, unit for displaying the results, current moisture content in %, drying mode/Status display drying
- Observation window over the sample, useful during initial adjustment
- Internal memory for automatic sequence of 10 drying programs and 100 drying processes carried out
- The last value measured remains on the display until it is replaced by a new measurement
- Sample description for up to 99 samples, 2 digits, freely programmable, and is printed in the measuring protocol
- Date and time display as standard
- 10 sample plates included
- Table of applications: There are many practical examples in the operating instructions

Specifications

Readability:	0.01 %/0.001g
Weighing range, max:	60g
Reproducibility, weight of sample 2 g:	0.15%
Reproducibility, weight of sample 10 g:	0.02%
Temperature range:	+50 to +200°C
Dimensions (WxDxH):	202 x 336 x 157mm

Type	PK	Cat. No.
DBS 60-3	1	**9.901 441**

Sample dishes - please see page 360

1 Moisture analyser DLT 100-3

NEW!

Kern & Sohn GmbH

- Halogen quartz glass heater 400 W
- The last value measured remains on the display until it is replaced by a new measurement
- Innovative touchscreen: Large touch-sensitive, backlit screen with very good contrast for easy operation and convenient reading
- Clear menu structure with plain text labels on the display. The menu and processes are self-explanatory.
- 10 sample plates included
- Balance contains memories for automatic sequence of 300 drying programs (12 free characters for each memory) as well as a further 100 memories for drying processes which have been carried out, which can be recalled individually
- Net weighing assistance to a defined target value (g) with adjustable tolerance range 1% to 25% of the target value
- Simple „step-by-step" user guidance in the display in the following languages: English, German, French, Italian, Spanish, Portuguese

1

Specifications

Readability:	0.01%/0.001g
Weighing range, max:	160g
Reproducibility, weight of sample 10g:	0.001g
Temperature range:	+35 to +160°C
Dimensions evaluation device (WxDxH):	200 x 150 x 63mm
Overall dimensions (WxDxH):	210 x 340 x 225mm

Type	PK	Cat. No.
DLT 100-3	1	**9.901 440**

2 Moisture balances MB-23 and MB-25

NEW!

OHAUS

The Ohaus MB Series Moisture Analyzers MB-23 and MB-25 provide stable results with 0.1% or 0.05% moisture resolution because of precision weighing technology. They are supplied with either an infra-red, or halogen, heating system. Applicable for most applications. Graphical interface control. No programming necessary.

- Halogen (MB-25) or infra-red (MB23) technology
- 110g capacity
- Operating temperature 50^C to 160°C, set in 5°C
- Displayed data: 0.005g/0.05% (MB25) and 0.001g/0.1% (MB23)
- Sample holder included in MB25 but as option in MB23
- Delivered with 50 x 90mm aluminium sample dishes and protective cover

2

Specifications

Capacity (g):	110
Electricity supply:	100 to 240V 50/60 Hz a.c.
Dimensions (WxHxD):	17 x 13 x 28cm
Net weight (kg):	2.3

Type	Heating	Reproducibility ± g	Readability mg	PK	Cat. No.
MB23	Infra-red heating (no glass)	0.2% (10g sample)	10	1	**9.947 604**
MB25	Halogen heating	0.05% (10g sample)	5	1	**9.947 605**

3 Halogen moisture balance MB-35

OHAUS

The basic model MB35 offers the perfect combination of user friendly operation and high resolution (1mg/0.01% readability).

- Halogen-technology (up to 40% faster than infra-red)
- 35g capacity with 0.01%/0.001g readability
- Reproducibility 0.10% - 0.03%
- Temperature range: 50°C to 160°C (5°C increments)
- Backlit graphics display
- One automatic shut-off mode
- Menu-driven in 5 selectable languages
- RS232 Interface
- Compact and robust housing.

3

Type	Readability	Weighing range g	Plate diam. mm	PK	Cat. No.
MB 35	0.01% / 0.001 g	35	90	1	**9.947 500**

Sample dishes - please see page 360

1

1 Moisture balance MB-45

The professional's choice for high resolution analysis (1mg/0.01% readability). *OHAUS*

- Halogen heating technology
- Menu navigation in 5 selectable languages
- Four, user defined, temperature profiles
- Large, back-lit graphical LCD display
- Three selectable automatic shut-off modes
- Fifty, user-defined, drying programmes
- RS232 data interface
- Statistical function

Specifications

Weighing range:	45g
Readability:	0.01%/0.001g
Temperature range:	50 to 200°C (1°C stages)
Timer:	1.0 to 120 mins. (0.1 min. increments)
Measurement display:	% moisture, % dry substance, % ratio, gram or user defined
Shut-off modes:	Manual, time-controlled, Auto30, Auto60, Auto90 (automatic can be freely selected)
Temperature profile:	Standard, rapid, gentle, gradual
Memory:	50 named drying procedures
Weight calibration:	20g external calibration weight, optional
Dryer calibration.:	100°C and 200°C with optional temperature calibration set
Dimensions WxDxH:	190 x 350 x 150mm
Weight:	4.6kg
Accessories, optional:	Disposable sample dishes, reusable sample dishes, glass fibre filters, theft protection, protective cover, temperature calibration set, calibration weight, printer

Type	PK	Cat. No.
MB-45	1	**9.950 065**

OIML classes

Classes of Accuracy Nominal value	(Tolerance ±)						
	E1	E2	F1	F2	M1	M 2	M 3
1mg	± 0.003 mg	± 0.006 mg	± 0.020 mg	± 0.006 mg	± 0.20 mg		
2mg	± 0.003 mg	± 0.006 mg	± 0.020 mg	± 0.006 mg	± 0.20 mg		
5mg	± 0.003 mg	± 0.006 mg	± 0.020 mg	± 0.006 mg	± 0.20 mg		
10mg	± 0.003 mg	± 0.008 mg	± 0.025 mg	± 0.008 mg	± 0.25 mg		
20mg	± 0.003 mg	± 0.010 mg	± 0.03 mg	± 0.10 mg	± 0.3 mg		
50mg	± 0.004 mg	± 0.012 mg	± 0.04 mg	± 0.12 mg	± 0.4 mg		
100mg	± 0.005 mg	± 0.016 mg	± 0.05 mg	± 0.16 mg	± 0.5 mg	± 1.6 mg	
200mg	± 0.006 mg	± 0.020 mg	± 0.06 mg	± 0.20 mg	± 0.6 mg	± 2.0 mg	
500mg	± 0.008 mg	± 0.025 mg	± 0.08 mg	± 0.25 mg	± 0.8 mg	± 2.5 mg	
1g	± 0.010 mg	± 0.03 mg	± 0.10 mg	± 0.3 mg	± 1.0 mg	± 3.0 mg	± 10 mg
2g	± 0.012 mg	± 0.04 mg	± 0.12 mg	± 0.4 mg	± 1.2 mg	± 4.0 mg	± 12 mg
5g	± 0.016 mg	± 0.05 mg	± 0.16 mg	± 0.5 mg	± 1.6 mg	± 5.0 mg	± 16 mg
10g	± 0.020 mg	± 0.06 mg	± 0.20 mg	± 0.6 mg	± 2.0 mg	± 6.0 mg	± 20 mg
20g	± 0.025 mg	± 0.08 mg	± 0.25 mg	± 0.8 mg	± 2.5 mg	± 8.0 mg	± 25 mg
50g	± 0.03 mg	± 0.10 mg	± 0.3 mg	± 1.0 mg	± 3.0 mg	± 10 mg	± 30 mg
100g	± 0.05 mg	± 0.16 mg	± 0.5 mg	± 1.6 mg	± 5.0 mg	± 16 mg	± 50 mg
200g	± 0.10 mg	± 0.3 mg	± 1.0 mg	± 3.0 mg	± 10 mg	± 30 mg	± 100 mg
500g	± 0.25 mg	± 0.8 mg	± 2.5 mg	± 8.0 mg	± 25 mg	± 80 mg	± 250 mg
1kg	± 0.5 mg	± 1.6 mg	± 5.0 mg	± 16 mg	± 50 mg	± 160 mg	± 500 mg
2kg	± 1.0 mg	± 3.0 mg	± 10 mg	± 30 mg	± 100 mg	± 300 mg	± 1000 mg
5kg	± 2.5 mg	± 8.0 mg	± 25 mg	± 80 mg	± 250 mg	± 800 mg	± 2500 mg
10kg	± 5.0 mg	± 16 mg	± 50 mg	± 160 mg	± 500 mg	± 1600 mg	± 5000 mg
20kg	± 10 mg	± 30 mg	± 100 mg	± 300 mg	± 1000 mg	± 3000 mg	± 10 g
50kg	± 25 mg	± 80 mg	± 250 mg	± 800 mg	± 2500 mg	± 8000 mg	± 25 g
100kg		± 160 mg	± 500 mg	± 1600 mg	± 5000 mg	± 16 g	± 50 g
200kg		± 300 mg	± 1000 mg	± 3000 mg	± 10 g	± 30 g	± 100 g
500kg		± 800 mg	± 2500 mg	± 8000 mg	± 25 g	± 80 g	± 250 g
1000kg		± 1600 mg	± 5000 mg	± 16 g	± 50 g	± 160 g	± 500 g
2000kg			± 10 g	± 30 g	± 100 g	± 300 g	± 1000 g
5000kg			± 25 g	± 80 g	± 250 g	± 800 g	± 2500 g

1 Weight sets, cylindrical shape, polished stainless steel, wooden box, class E2

NEW!

In fully lined wooden boxes, milligram weights in special plastic tray. With a special glove for handling weights, tweezers and dust brush.

Kern & Sohn GmbH

We provide your individual set of weights.

Description	PK	Cat. No.
1 mg - 200 g	1	**6.222 582**

Also available: Single weights from 1mg - 2000 kg or complete weight sets from 1mg - 10kg in OIML-classes E1, E2, F1, F2, M1, M2, M3.

2 LLG weighing scoops, porcelain

NEW!

Length mm	PK	Cat. No.
37	1	**9.115 350**
53	1	**6.241 255**
64	1	**9.115 351**

3 Weighing scoops, stainless steel 18/10

Capacity ml	PK	Cat. No.
3	1	**6.238 169**
6	1	**6.238 170**
10	1	**6.238 171**

4 Weighing scoops, aluminium or glass

Without counterweight.

Length mm	Material	PK	Cat. No.
70	Aluminium	1	**9.301 006**
90	Aluminium	1	**9.301 008**
105	Aluminium	1	**9.301 010**
60	Glass	1	**9.301 026**
80	Glass	1	**9.301 028**
100	Glass	1	**9.301 030**

5 Weighing scoops, glass

Glass. Ideal for powders or granules which are dispensed via the tubular stem.

Capacity ml	PK	Cat. No.
3	1	**9.301 066**
6	1	**9.301 067**
10	1	**9.301 068**

6 Kjeldahl weighing boat 609, parchment paper

Ideal for weighing and transporting all types of sample. Especially for determination of nitrogen according to Kjeldahl (e.g. determination of total protein content in foodstuff).
Made of nitrogen-free parchment paper. Can be dropped into the Kjeldahl flask and be dissolved together with the sample.

GE Healthcare

Width mm	Length mm	Height mm	PK	Cat. No.
10	55	10	100	**9.069 011**

1 LLG-Weighing bottles with NS Stopper, Borosilicate glass 3.3

NEW!

With writing area.
Available in tall or low shape.

Capacity ml	Diam. mm	Height mm	NS	Form	PK	Cat. No.
6	25	25	19/12	low	1	**9.300 151**
10	25	40	19/12	tall	1	**9.300 160**
15	35	30	29/12	low	1	**9.300 152**
15	40	25	34.5/12	low	1	**9.300 150**
20	30	50	24/12	tall	1	**9.300 161**
30	50	30	45/12	low	1	**9.300 153**
45	35	70	29/12	tall	1	**9.300 162**
45	60	30	50/12	low	1	**9.300 154**
70	40	80	34.5/12	tall	1	**9.300 163**
80	80	30	80/12	low	1	**9.300 155**
110	50	80	45/12	tall	1	**9.300 164**

2 Weighing bottles DURAN® with NS Stopper

DURAN®. DIN 12605. With interchangeable NS stopper. With white inscription label.
Burned-in imprint of capacity and size.
Available in high or low shape.

Capacity ml	Diam. mm	Height mm	NS	Form	PK	Cat. No.
6	25	25	24/12	low	1	**9.300 022**
10	25	40	24/12	high	1	**9.300 113**
15	40	25	40/12	low	1	**9.300 021**
15	35	30	34/12	low	1	**9.300 023**
30	50	30	50/12	low	1	**9.300 032**
45	35	70	34/12	high	1	**9.300 123**
45	60	30	60/12	low	1	**9.300 037**
70	40	80	40/12	high	1	**9.300 124**
80	80	30	80/12	low	1	**9.300 041**
110	50	80	50/12	high	1	**9.300 127**

3 LLG-Aluminium weighing dish

Aluminium foil, for sample handling. With a flanged, crimped wall for rigidity.
Finger-tab handle can be etched for identification prior to weighing (Not included on Cat. No. 6.236 854).
Made from oil-free, lightweight aluminium.

Diam. mm	Height mm	PK	Cat. No.
43	12	100	**6.238 138**
57	14	100	**6.238 139**
70	16	100	**6.238 140**
101	8	50	**6.236 854**

4 Sample dishes, Aluminium

Highest quality. Fat free, perfectly flat over entire surface. Ideal for moisture determination in infrared ovens. Sample material can be distributed evenly and reflects the heat uniformly over the complete dish area. Can also be used for precision and analytical weighing. *schuett-biotec*

Diam. mm	Height mm	PK	Cat. No.
100	7	80	**9.106 265**

5 LLG-Weighing boats, antistatic, PS

Biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols, and bases.
Temperature range -10 to +70°C. Can be used with microwave moisture analysers.
Features a diamond shape that easily flexes for accurate pouring and a wide, flat bottom to resist tipping.

Capacity ml	Dimensions mm	Colour	PK	Cat. No.
5	55 x 35 x 6	white	1000	**9.900 788**
30	78 x 56 x 14	white	500	**9.950 194**
100	119 x 90 x 19	white	250	**9.950 195**
5	55 x 35 x 6	black	1000	**9.900 801**
30	78 x 56 x 14	black	500	**9.950 196**
100	119 x 90 x 19	black	250	**9.950 197**

E & OE.

1 LLG-Hexagonal weighing boats, antistatic, PS

Biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols, and bases.
Temperature range -10 to +70°C. Can be used with microwave moisture analyzers. Bend flexible boats at points to form pour spouts. Flat bottoms to resist tipping. Sloping sides provide accurate transfer.

Size	Dimensions mm	Colour	PK	Cat. No.
Small	38 x 25 x 9	white	500	**9.900 893**
Medium	64 x 51 x 19	white	500	**9.900 894**
Large	102 x 76 x 22	white	500	**9.900 895**
X-Large	127 x 89 x 31	white	500	**9.900 896**

1

2 LLG-Square weighing boats, antistatic, PS

Biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols, and bases.
Temperature range -10 to +70°C. Can be used with microwave moisture analysers.
Boats are shallow with a wide, flat bottom to resist tipping. Rounded corners simplify transfer.

Capacity ml	Dimensions (W x D x H) mm	Colour	PK	Cat. No.
7	46 x 46 x 8	White	1000	**9.900 785**
100	85 x 85 x 24	White	1000	**9.900 786**
250	140 x 140 x 22	White	1000	**9.900 787**
7	46 x 46 x 8	Black	1000	**9.900 789**
100	85 x 85 x 24	Black	1000	**9.900 791**
250	140 x 140 x 22	Black	1000	**9.900 800**

2

3 Weighing bottles, PP

PP. Transparent. With push-on lid. *Kartell*

Capacity Litres	Diam. mm	Height mm	PK	Cat. No.
30	30	50	1	**9.300 805**
25	40	30	1	**9.300 810**
65	40	60	1	**9.300 815**
65	60	35	1	**9.300 820**
50	50	30	1	**9.300 825**
200	60	90	1	**9.300 830**
400	70	120	1	**9.300 835**

3

4 Planar weighing apparatus

Glass. For all weighing procedures involving the dispersal of material into a thin layer.

Type	PK	Cat. No.
Planar weighing apparatus	1	**9.300 500**

4

5 Weighing boats MN 808, Paper

Pack of 100 pieces. *MACHEREY-NAGEL*
Paper
Dimensions: 58mm x 10mm x 10mm

Type	PK	Cat. No.
MN808	100	**9.301 069**

Other sizes and weighing aids available on request.

5

1

1 Weighing paper MN 226

Transparent, smooth.
Block of 100 sheets.

MACHEREY-NAGEL

Type	Width mm	Length mm	PK	Cat. No.
MN 226	90	115	100	**9.058 975**

Further weighing aids available on request.

2

2 Weighing Papers

NEW!

- Nitrogen free for a very smooth surface and good sample recovery
- Strong enough to support dense material

Heathrow Scientific

Dimensions (D x W) mm			PK	Cat. No.
76	x	76	500	**9.059 016**
102	x	102	500	**9.059 017**
152	x	152	500	**9.059 018**

3

3 Playing card rejects

Standard size for use as disposable sample carriers or spatulas. Printed and laminated on both sides.
Pack size: 1kg

Type	PK	Cat. No.
Playing card rejects	1	**9.190 940**

4

4 Anti-vibration platform, Vibrasorb

For absorbing and damping vibrations down to 16Hz. Comprises a moulded terazzo slab supported on four vibration absorbers with non-slip feet. Suitable for isolating sensitive analytical instruments such as balances and microscopes. Will support up to 16kg.

Bel-Art Products

Width mm	Depth mm	Height mm	Weight kg	PK	Cat. No.
350	350	76	19	1	**9.941 600**
450	560	76	39	1	**9.951 600**

1 LLG-General purpose thermometer, red filling

Graduation resistant against acids and alkalies.
Breakage protected versions with FEP-coating available on request.

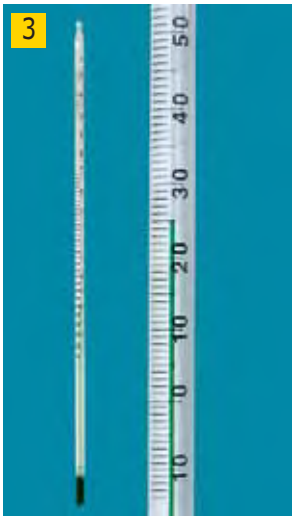
Measuring range °C	Length mm	Graduations °C	Diam. mm	Immersion depth	Capillary	PK	Cat. No.
-35 ... +50	300	1	6 ±1	total	white enameled, round	1	**9.236 720**
-20 ... +110	300	1	6 ±1	total	white enameled, round	1	**6.206 594**
-20 ... +150	300	1	6 ±1	total	white enameled, round	1	**9.236 723**
-10 ... +110	260	1	6 ±1	total	yellow enameled, round	1	**9.236 721**
-10 ... +110	270	1	6 ±1	76mm	yellow enameled, round	1	**9.236 727**
-10 ... +150	260	1	6 ±1	total	yellow enameled, round	1	**9.236 722**
-10 ... +150	260	1	6 ±1	76mm	yellow enameled, round	1	**9.236 728**
-10 ... +200	300	1	6 ±1	total	yellow enameled, round	1	**9.236 724**
-10 ... +200	300	1	6 ±1	total	white enameled, round	1	**9.236 725**
-10 ... +200	300	1	6 ±1	76mm	yellow enameled, round	1	**9.236 729**
-10 ... +250	300	1	6 ±1	total	yellow enameled, round	1	**9.236 726**

2 LLG- General-purpose thermometers, red filling

Enclosed-scale type, with eyelet. With uncoated, prismatic measuring capillary.
Red spirit filling (except 9.235 265: blue).

Measuring range °C	Length mm	Graduations °C	Diam. mm	Immersion depth	PK	Cat. No.
-10/0 ... +50	200	1	7-8	total	1	**9.235 245**
-10/0 ... +100	260	1	7-8	total	1	**9.235 250**
-10/0 ... +150	260	1	7-8	total	1	**9.235 255**
-10/0 ... +200*	300	1	7-8	total	1	**9.235 260**
-10/0 ... +250*	300	1	7-8	total	1	**9.235 265**

* Note: With these types the colour can fade after extended periods of use at higher temperatures.



3 LLG- General-purpose thermometers, green filling

Glass, solid stem, with loop, white backed. Environmentally friendly thermometer, with biodegradable, green spirit filling.

Measuring range °C	Length mm	Graduations °C	Diam. mm	Immersion depth mm	PK	Cat. No.
-10/0 ... +110	300	1.0	6-7	76	1	**9.235 275**
-10/0 ... +110	300	0.5	6-7	76	1	**9.235 276**
-10/0 ... +150	300	1.0	6-7	76	1	**9.235 277**
-10 ... +250	300	2.0	6-7	76	1	**9.235 278**
-10 ... +360	300	2.0	6-7	76	1	**9.235 279**

1

1 LLG-Precision thermometer, calibratable, red filling

Capillary: yellow enameled, round. Optional available with official calibration certificate, works certificate or DKD-calibation certificate. Please specify with order.
Breakage protected versions with FEP-coating available on request.

Measuring range °C	Length mm	Graduations °C	Diam. mm	Immersion depth	PK	Cat. No.
-50 ... +50	280	1.0	6 ±1	total	1	**9.236 800**
-10 ... +100	305	1.0	6 ±1	total	1	**9.236 783**
-10 ... +150	305	1.0	6 ±1	total	1	**9.236 784**
-10 ... +200	350	1.0	6 ±1	total	1	**9.236 788**
-50 ... +50	300	0.5	6 ±1	total	1	**9.236 801**
-10 ... +100	270	0.5	6 ±1	total	1	**9.236 785**
-10 ... +150	350	0.5	6 ±1	total	1	**9.236 786**

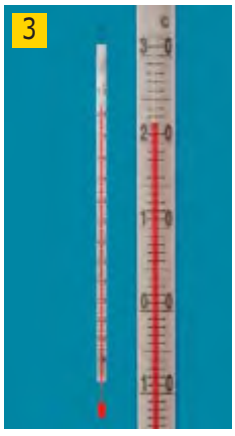
2

2 LLG-High-Precision thermometers, red filling

For precise measuring. Capillary: yellow enameled, round, immersion depth: total.
Optional available with works certificate or DAkkS-calibation certificate. Please specify with order.
Breakage protected versions with FEP-coating available on request.

Measuring range °C	Length mm	Graduations °C	Diam. mm	Immersion depth	PK	Cat. No.
-1 ... +101	610	0.1	610	total	1	**9.236 790**
-0 ... +50	420	0.1	420	total	1	**9.236 787**
-1 ... +200	610	0.2	610	total	1	**9.236 789**

3



3 LLG-Low temperature thermometers, -200 to +30°C

Suitable for official calibration. Enclosed scale type, 8 to 9mm diameter, with translucent glass scale and Richter seal. Prismatic, uncoated measuring capillary. The -200 to +30°C thermometer has a luminous blue measuring capillary, and is pentane filled. Further thermometers are available, red toluene filled with uncoated measuring capillary. Graduated every 1°C.

Measuring range °C	Length mm	PK	Cat. No.
-50 ... +50	300	1	**9.235 705**
-80 ... +30	300	1	**9.235 708**
-100 ... +30	300	1	**9.235 710**
-200 ... +30	300	1	**9.235 720**

4

4 Laboratory thermometers

NEW!

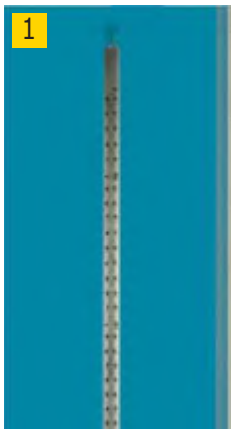
To DIN standards as indicated. Calibrated with state certificate. Enclosed scale type, 8 to 9 mm diameter. Prismatic measuring capillary, uncoated. Mercury filled.

Measuring range °C	Resolution °C	Length mm	DIN	PK	Cat. No.
0 to +50	1 / 2	220	12775	1	**9.235 505**
0 to +50	1 / 10	420	12775	1	**9.235 545**
0 to +50	1 / 5	350	12775	1	**9.235 546**
0 to +100	1 / 2	270	12775	1	**9.235 510**
0 to +100	1 / 1	305	12775	1	**9.235 547**
0 to +100	1 / 5	420	12775	1	**9.235 548**
0 to +100	1 / 10	550	12775	1	**9.235 549**
0 to +150	1 / 1	305	12775	1	**9.235 550**
0 to +250	1 / 1	350	12778	1	**9.235 525**
0 to +360	1 / 1	380	12778	1	**9.235 536**

1 Thermometers, ground glass joint

NEW!

With NS14.5/23 cone. With fixed immersion (immersion length = lower section + ground joint). Enclosed-scale type, NS 14.5/23. Translucent glass scale. Upper section approx. 11mm diameter, lower section 7.5mm diameter. Richter-top finish seal without button. Suitable for official calibration. Graduated every 1°C.



Measuring range °C	Corpus mm	Immersion length mm	Charge colour	PK	Cat. No.
-10 to +150:1	250	75	red	1	**9.236 021**
-10 to +150:0.5	350	75	red	1	**9.236 022**
-10 to +250:1	300	75	blue	1	**9.236 023**
-10 to +360:1	350	75	green	1	**9.236 024**
-10 to +150:1	250	100	red	1	**9.236 025**
-10 to +150:0.5	350	100	red	1	**9.236 026**
-10 to +250:1	300	100	blue	1	**9.236 027**
-10 to +360:1	350	100	green	1	**9.236 028**

2 Precision ground thermometer

NEW!

2

Schneider

Acc. to DIN 12784, with standard gound joint NS 14.5/23. Enclosed-scale type, capillary: transparent prismatic, diam. top: 11mm (±0.5mm), calibratable.

Measuring range °C	Graduations °C	Immersion length mm	Charge	PK	Cat. No.
-100 ... +30	1.0	68	red	1	**9.236 601**
-100 ... +30	1.0	75	red	1	**9.236 602**
-100 ... +30	1.0	95	red	1	**9.236 603**
-100 ... +30	1.0	125	red	1	**9.236 604**
-100 ... +30	0.5	68	red	1	**9.236 605**
-100 ... +30	0.5	75	red	1	**9.236 606**
-100 ... +30	0.5	95	red	1	**9.236 607**
-100 ... +30	0.5	125	red	1	**9.236 608**
-38 ... +50	1.0	68	blue	1	**9.236 609**
-38 ... +50	1.0	75	blue	1	**9.236 610**
-38 ... +50	1.0	95	blue	1	**9.236 611**
-38 ... +50	1.0	125	blue	1	**9.236 612**
-38 ... +50	1.0	150	blue	1	**9.236 613**
-38 ... +50	1.0	175	blue	1	**9.236 614**
-38 ... +50	1.0	200	blue	1	**9.236 615**

3 Support Labo-Clip

Amarell

Stable support for clamping test tubes, thermometers, pH electrodes and other laboratory instruments onto laboratory containers (e.g. beakers). Extensive chemical resistance, with strong flexible foam rubber plate perforated with 5 apertures of varying diameters. Metal components are corrosion-resistant. Applicable from -40°C to +120°C.

Type	PK	Cat. No.
Labo-Clip	1	**9.234 990**

1

1 LLG-Exact-Temp thermometers

For monitoring critical temperature conditions in
- deep freezes
- refrigerators
- cold rooms
- blood bank refrigerators
- incubators
- warming chambers

Characteristics:
- thermometer certifiable to National Standards
- supplied with works test certificate
- thermometer stem safely encapsulated in PTFE
- each thermometer is mounted in a square-shaped shatter-proof plastic bottle filled with a liquid to ensure accurate readings despite the opening and closing of instrument doors.
- each thermometer has an individual serial number.

LLG-Exact-Temp Standard thermometers, red spirit-filled

For	Measuring range °C	Grad. °C	Length mm	Bottle filling	PK	Cat. No.
Freezers	-90 ... +20	1.0	145	Sand	1	**9.235 663**
Refrigerators	-30 ... 0	0.5	125	Ethylene Glycol	1	**9.235 664**
Blood banks	-5 ... +20	0.5	145	Ethylene Glycol	1	**9.235 665**
Coolers	-5 ... +15	0.5	125	Ethylene Glycol	1	**9.235 666**
Incubators	+18 ... +50	0.5	135	Ethylene Glycol	1	**9.235 667**
Warming rooms, ovens	+20 ... +130	1.0	135	Vermiculite	1	**9.235 668**
Warming rooms, ovens	+35 ... +200	1.0	145	Vermiculite	1	**9.235 669**

LLG-Exact-Temp Standard thermometers, mercury-filled

For	Measuring range °C	Grad. °C	Length mm	Bottle filling	PK	Cat. No.
Freezers	-30 ... 0	0.5	115	Ethylene Glycol	1	**9.235 670**
Refrigerators	-5 ... +15	0.5	125	Ethylene Glycol	1	**9.235 671**
Incubators	+18 ... +50	0.5	135	Ethylene Glycol	1	**9.235 672**
Warming rooms, ovens	+20 ... +130	1.0	135	Vermiculite	1	**9.235 673**
Warming rooms, ovens	+35 ... +200	1.0	145	Vermiculite	1	**9.235 674**

LLG-Precision thermometers Exact-Temp, blue spirit-filled

For	Measuring range °C	Grad. °C	Length mm	Bottle filling	PK	Cat. No.
Freezers	-25 ... -5	0.1	210	Ethylene Glycol	1	**9.235 675**
Refrigerators	-2 ... +10	0.1	180	Ethylene Glycol	1	**9.235 676**
Blood banks	-2 ... +10	0.1	180	Ethylene Glycol	1	**9.235 677**
Incubators	+15 ... +30	0.1	180	Ethylene Glycol	1	**9.235 678**
Incubators	+25 ... +45	0.1	190	Ethylene Glycol	1	**9.235 679**
Warming rooms, ovens	+50 ... +115	0.1	200	Vermiculite	1	**9.235 680**

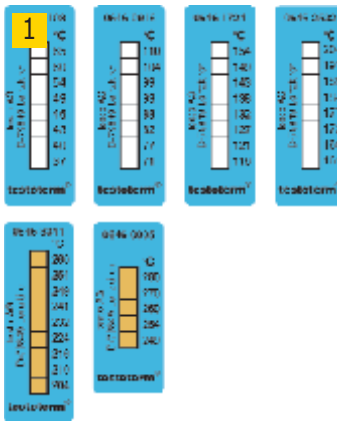
LLG-Precision thermometers Exact-Temp, mercury-filled

For	Measuring range °C	Grad. °C	Length mm	Bottle filling	PK	Cat. No.
Cold rooms, Freezers	-25 ... -5	0.1	210	Ethylene Glycol	1	**9.235 681**
Refrigerators	-2 ... +10	0.1	180	Ethylene Glycol	1	**9.235 682**
Blood banks	-2 ... +10	0.1	180	Ethylene Glycol	1	**9.235 683**
Incubators	+15 ... +30	0.1	180	Ethylene Glycol	1	**9.235 684**
Incubators	+25 ... +45	0.1	190	Ethylene Glycol	1	**9.235 685**
Warming rooms, ovens	+95 ... +115	0.1	200	Vermiculite	1	**9.235 686**

1 8-step irreversible temperature strips

Thermax strips, 8-step. 5 types cover the measuring range +37 to +280°C, each strip displays 8 different temperatures.
Each strip measures 50 x 18mm.

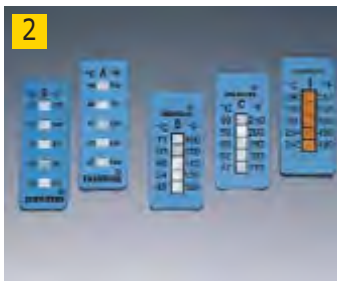
Testo



Type	Measuring range °C	Description	PK	Cat. No.
06460108	+37 ... +65	8 temperature changing points	10	**9.246 002**
06460916	+71 ... +110	8 temperature changing points	10	**9.246 003**
06461724	+116 ... +154	8 temperature changing points	10	**9.246 004**
06462532	+160 ... +199	8 temperature changing points	10	**9.246 005**
06463341	+204 ... +260	8 temperature changing points	10	**9.246 006**

2 5-step irreversible temperature strips

5-step irreversible temperature measuring strips covering the temperature range 29 to 290°C.
Each strip measures 35 x 15mm.



Type	Measuring range °C	PK	Cat. No.
S	+29 ... +40	10	**9.246 310**
A	+37 ... +46	10	**9.246 311**
B	+49 ... +71	10	**9.246 312**
C	+77 ... +99	10	**9.246 313**
D	+104 ... +127	10	**9.246 314**
E	+132 ... +154	10	**9.246 315**
F	+160 ... +182	10	**9.246 316**
G	+188 ... +210	10	**9.246 317**
H	+ 216 ... +249	10	**9.246 318**
I	+249 ... +290	10	**9.246 319**

3 Refrigerator thermometer

Plastic, with loop or hook clip mountings. Measuring range -40 to +40°C. Graduated every 1°C.
Dimensions (L x dia.) 185 x 20mm.

Type	PK	Cat. No.
Refrigerator thermometer	1	**9.242 340**

4 Maxima-Minima-Thermometer

TFA Dostmann

- ivory plastic
- beige
- with push button
- mercury-free

Dimensions: 230 x 60mm
Weight: 120g

Type	PK	Cat. No.
Maxima-Minima-Thermometer	1	**9.241 134**

1

1 LLG Min/Max Thermometer with outdoor sensor

NEW!

Digital thermometer with outdoor sensor.
- Two-tier LCD display
- Measuring temperature range -50°C to +70°C
- Display resolution 0.1°C
- Accuracy ±1°C
- Dimensions 110 x 70 x 20mm
- Display size 40 x 30mm
- AAA 1.5V battery included
- Length of the cable 190cm

Type	PK	Cat. No.
LLG Min/Max Thermometer with outdoor sensor	1	**9.243 165**

2

2 Maximum/Minimum Indoor/outdoor thermometer

Optimal for controlling of refrigerator and freezer temperatures. Measuring range - 50 to +70°C, accuracy 0.1°C. External remote sensor cable, length 3m, with stand and accessories for wall mounting. Dimensions: approx. 80 x 55 x 20mm, with battery. *Amarell*

Official calibration certificate with one or two test points available on request.

Type	PK	Cat. No.
Maximum/Minimum indoor/outdoor thermometer	1	**9.235 120**

3

3 Digital Maxima-Minima-Thermometer

Digital thermometer, wall hanging, for indoor or outdoor use. With blue, splash-proof casing, selectable °C/°F ranges and battery. *TFA Dostmann*
weight: 161g

Measuring range °C	Width mm	Depth mm	Height mm	PK	Cat. No.
-50 ... +70	75	44	115	1	**9.241 131**

4

4 Laboratory Max./Min. thermometer

Display of current, highest and lowest temperature, hold function, alarm at freely adjustable temperature values (upper/lower limit), measuring range -50 to +70°C, accuracy ±0.5°C at -20 to +25°C, otherwise ±1°C, selectable °C/°F readout. Supplied with table stand and magnet, probe with 3m cable and 3V Lithium CR2032 button cell (acc. to EN 13485).

Type	PK	Cat. No.
Laboratory Max./Min. thermometer	1	**9.851 022**

1 Thermometer Checkfridge

Hanna

- specially designed to monitor the internal temperature of freezers and refrigeration units
- magnetic backing provides an easy way to attach the thermometer to all metal refrigerators and freezers
- the sensor with 1 metre cable can be easily placed within the freezer/fridge cabinet
- Very high accuracy
- The unique Cal Check Function enables the user to check the internal electronics of the thermometer

Specifications:

Measuring range:	-50 to +150°C
Accuracy:	±0.3°C (-50 to +90°C)
Probe:	40 x 5mm, with 1 metre cable
Battery type:	1 x 1.5V
Weight:	100g

Type	PK	Cat. No.
Checkfridge	1	**9.851 098**

2 Digital Maxima-Minima-Thermometers Exact-Temp

NEW!

Schneider

High-precision instruments to monitor freezers, blood bank freezers, incubators, climate chambers and ovens.
The unbreakable plastic bottle is filled with a special medium to ensure accurate measurments even at open doors.

- Thermometers traceable to international standards (with certificate of conformance and accuracy)
- Accuracy: ±0.5°C, resolution 0.1°C
- Temperature units: °C or °F
- 3 display modes: maximum, minimum and ambient temperature
- Alarm function
- 3 m long cable (diameter: 1mm)
- Alkaline battery (AAA) included
- Breakage protected PETG plastic bottles (with 30ml ethylene glycol mixture)
- Bottles with magnets attached for easy wall or door mounting
- Individual serial numbers
- The instruments are available with works certificate on request.

Application	Measuring range °C	Certified Temperature °C	PK	Cat. No.
Freezers	-50 to 70	-20	1	**9.236 710**
Freezing point	-50 to 70	0	1	**9.236 711**
Refrigerators	-50 to 70	4	1	**9.236 712**
Incubators/Water baths	-50 to 70	37	1	**9.236 713**
Climate chambers	-50 to 70	21	1	**9.236 714**

3 LLG-Digital pocket themometer Type 12060

Measuring range -50 to +150°C, accuracy ±1°C. With hold function. Probe made of stainless steel, 125 x 3.5mm, with protective plastice sleeve and clip, with battery 1 x 1.5V (LR44). Dimensions (L x W): 60 x 20mm.

Type	PK	Cat. No.
LLG-Digital pocket themometer Type 12060	1	**9.236 701**

4 LLG-Digital pocket themometer Type 12090

Waterproof. Measuring range -50 to +150°C/-58 to +302°F, accuracy ±1°C. With hold function.
Probe made of stainless steel, 85 x 3.5mm, with protective plastic sleeve, with battery 1 x 1.5V (LR44).
Overall dimensions (L x W): 185 x 30mm.

Type	PK	Cat. No.
LLG-Digital pocket themometer Type 12090	1	**9.236 707**

5 LLG-Digital pocket themometer Type 12080

Waterproof. Measuring range -50 to +300°C/-58 to +572°F, accuracy ±1°C until 150°C, above ±2°C.
With hold function and Max/Min function. Probe made of stainless steel, 85 x 3.5mm, with protective plastic sleeve, with battery 1 x 1.5V (LR44). Overall dimensions (L x W): 195 x 50mm.

Type	PK	Cat. No.
LLG-Digital pocket themometer Type 12080	1	**9.236 703**

1

1 Thermometer Pocket-Digitemp

Waterproof instrument in plastic housing (food-grade).
Low budget, durable instrument for measuring temperature in air, gas, liquid and platical substances (acc. to EN 13485).
Range of applications: Food (HACCP), industry, agriculture and hobby.
Features: waterproof, 1-second measuring frequency, Max-Min-Hold function, °C/°F-selectable.

Sensor:	NTC
Measuring range:	-40°C to +200°C
Resolution:	0.1°C
Accurancy:	±0.8°C (at 0°C to 100°C) others 1.5°C
Dimensions:	202 x 20 x 16mm (long version) 150 x 20 x 16mm (short version)
Probe dimensions:	126 x 3.5mm (long version) 75 x 3.5mm (short version)
Weight:	40g

Type	PK	Cat. No.
short version	1	**9.851 028**
long version	1	**9.851 029**

2

3

2 3 Mini-Thermometer TDC 110

NEW!

ebro

- Probe length 120 mm
- Pointed probe, fixed
- Robust and impact-resistant
- Exchangeable battery
- °C/°F switchable
- Automatic deactivation after approx. 10 min.
- With needle guard and spare battery

Specifications

Measuring range:	-50°C to +150°C
Accuracy (±1 Digit):	±1°C (-10°C ... -120°C). ±2°C for remaining measuring range
Readabilty:	±1°C
Operating range:	0 to +50°C
Batterie:	1.5 V, G 10-A
Dimensions:	50 x 40 mm
Weight:	approx. 13g

Description	PK	Cat. No.
Mini-Thermometer TDC 110	1	**6.237 979**

4

9.851 997

Digital pocket themometer ThermoJack/ThermoJack PRO

NEW!

Dostmann electronic

Foldable pocket themometer, watertight. Ideal for measuring foods (acc. to EN13485), liquids etc. ThermoJack PRO with calibration certificate.

Type	Measuring range °C	Accuracy °C	Resolution °C	Probe	PK	Cat. No.
ThermoJack	-40 ... +250	± 0.5 (-20 ... +150)*	0.1	70	1	**9.851 997** 4
ThermoJack PRO	-50 ... +350	± 0.5 (-30 ... +150)*	0.1	110	1	**9.851 999**

*otherwise ±1.0°C or 1%, the larger value applies

5

5 Digital thermometer, Checktemp C

Hanna

With very high measurement accuracy of ±0.3°C (-20 to +90°C) and integral stainless steel insertion probe. Equipped with the unique "Checkcal" function which tests internal instrument electronics when the Checktemp is switched on.

Range:	-50 to +150°C
Resolution:	0.1°C
Accuracy:	±0.3°C (-20 to 90°C) ±0.5°C (rest of range)
Overall L x W x H:	170 x 50 x 25mm
Probe L x dia.:	105 x 3mm
Weight:	100g

Type	PK	Cat. No.
Checktemp C	1	**9.950 179**

1 Digital thermometer Checktemp 1 C

Hanna

With very high measurement accuracy of ±0.3°C (-20 to +90°C) and integral stainless steel insertion probe with handle and 1 metre cable, ensuring flexibility in use.
Equipped with the unique "Checkcal" function which tests internal instrument electronics when the Checktemp 1 is switched on.

Specifications

Range:	-50 to +150°C
Resolution:	0.1°C
Accuracy:	±0.3°C (-20 to 90°C) ±0.5°C (rest of range)
Overall L x W x H:	170 x 50 x 25mm
Probe length L x dia.:	106 x 3mm
Weight:	80g

Type	PK	Cat. No.
Checktemp 1 C	1	**9.950 180**

1

2 Digital hand held thermometer Type 12010

Measuring range -50 bis +150°C, accuracy ±1°C. With hold function. Penetration probe 105 x 3.5mm.
With battery 1 x 1.5V (LR44). Overall dimensions (L x W): 75 x 40mm.

Type	PK	Cat. No.
Digital hand held thermometer Type 12010	1	**9.236 700**

2

3 Digital hand held thermometer Type 12100

Waterproof. Measuring range -50 to +150°C/-58 to +302°F, accuracy ±1°C until 150°C above ±2°C. With hold function and Max/Min function. Memory capacity 10. Penetration probe made from stainless steel, 130 x 3.5mm with 1m cable and handle. With battery 1 x 1.5V AAA. Overall dimensions (L x W): 180 x 85mm.

Type	PK	Cat. No.
Digital hand held thermometer Type 12100	1	**9.236 704**

3

4 Digital hand held thermometer Type 12200

Waterproof. Measuring range -50 to +300°C/-58 to +572°F, accuracy ±1°C until 150°C above ±2°C.
With hold function and Max/Min function. Penetration probe made of stainless steel, 140 x 3.5mm with 1m cable and handle. With battery 1 x 1.5V AAA. Overall dimensions (L x W): 140 x 75mm.

Type	PK	Cat. No.
Digital hand held thermometer Type 12200	1	**9.236 705**

4

1

9.236 708

Hand held thermometer Type 12300

Suitable for all probes Type K (NiCr-Ni). Measuring range -200 to +1370°C/-328 to +2498°F. With hold and Max/Min function and 10 values memory function. With temperature limit alarm function, integrated display light and holster. With battery 1 x 1.5V AAA. Overall dimensions (L x W): 200 x 85mm. Accuracy: ±1°C from -49°C to +740°C.

Probe (9.236 709) - please order separately.

Type	PK	Cat. No.
Hand held thermometer Type 12300, without sensor	1	**9.236 708** 1
Mineral-insulated thermocouple 1 x NiCr-Ni type K acc. to DIN EN 60584 class 1	1	**9.236 709** 2

2

9.236 709

3

3 Food and frozen goods thermometers, Type 105

One-handed, penetration thermometer. *Testo*
For measurements according to the EU Directive concerning the control of foodstuffs (HACCP). Waterproof, IP65protection level, can be rinsed. With battery.

Sensor (Dia. x L):	5 x 100mm
Measuring tip dia.:	3.5mm
Accuracy:	-20 to +100°C: ±0.5°C rest of range: ±1°C.

Type	Measuring range °C	PK	Cat. No.
105	-50 ... +275	1	**9.718 002**

4

4 Digital thermometer ama-digit ad 14 th

Temperature range: -35 to +500°C, resolution 1°C. Rapid response and ergonomic design. Dimensions (WxDxH) 90 x 60 x 25mm. With stainless steel probe (L x dia.) approx. 100 x 2.5mm. With battery. *Amarell*

Type	PK	Cat. No.
ama-digit ad 14 th	1	**9.243 100**

5

5 Digital thermometer ama-digit ad 15 th

Color back (available in 4 additional colors)Range: -40 to +120°C, resolution 0.1°C. Precise and cost-effective. Dimensions (WxDxH) 90 x 60 x 25mm.
With stainless steel probe approx. 30 x 2.5mm (L x dia). With battery. *Amarell*

Type	PK	Cat. No.
ama-digit ad 15 th	1	**9.243 101**

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1 Digital thermometer ama-digit ad 20 th

Temperature range: -50 to +300°C. Resolution 0.1°C from -50 to +180°C, 1°C for the rest of the range. Dimensions (WxDxH) 90 x 60 x 25mm. With battery. For appropriate temperature probes see order no. 9.243 111 to 114.

Amarell

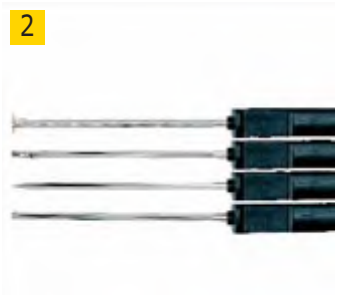
Type	PK	Cat. No.
ama-digit ad 20 th	1	**9.243 102**

2 Temperature probes, Pt100 for ama-digit ad 20 th

Class A. Stainless steel sheathed probe, approx. 105 x 3mm L x dia.
With handle and approx. 1m cable.

Amarell

Type	PK	Cat. No.
Pt100 immersion probe	1	**9.243 111**
Pt100 penetration probe	1	**9.243 112**
Pt100 surface probe	1	**9.243 113**
Pt100 air probe	1	**9.243 114**



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xylem

Thermometers TFN-Series

1- or 2-Channel thermometers for use with thermocouples (Type K, J, T, E) *ebro*
TFN 520/TFN 520 SMP/TFN 530/TFN 530 SMP

Ex-proof versions also available!

Applications:
Heating/Air-conditioning, ventilation/Air, gases, fluids/Surface temperature/Plastic materials/Laboratories

Attributes:
- Robust and impact resistant
- Min/Max, Hold facility
- °C/°F selectable
- Battery charge status indicator
- Changeable battery
- Factory calibration certificate

Specifications:

Measuring range Type K	-200 to +1200°C
Measuring range Type J	-100 to +800°C
Measuring range Type T	-50 to +300°C
Measuring range Type E	-100 to +600°C
Accuracy at +25°C, Type K	±0.3°C (-100 to +250°C)
Accuracy at +25°C, Type J	±0.3°C (-50 to +190°C)
Accuracy at +25°C, Type T	±0.3°C (-50 to +220°C)
Accuracy at +25°C, Type E	±0.3°C (-50 to +150°C)
	±0.5 % for remaining range
Resolution Type K	0.1°C (-200 to +250°C)
Resolution Type J	0.1°C (-100 to +190°C)
Resolution Type T	0.1°C (-50 to +220°C)
Resolution Type E	0.1°C (-100 to +150°C)
	1°C for remaining range
Protection class:	IP 67 (TFN 520/TFN 530); IP 40 (TFN 520 SMP/TFN 530 SMP)
Dimensions:	115 x 54 x 22mm
Housing:	ABS
Weight:	approx. 90g
Sensor:	external; thermocouple Type K, J, T, E
Sensor connection:	LEMO (TFN 520/TFN 530); SMP (TFN 520 SMP/TFN 530 SMP)
Number of channels:	1 (TFN 520/TFN 520 SMP); 2 (TFN 530/TFN 530 SMP)
Battery:	Lithium, 3 V; battery life approx. 5 years
Measuring rate:	0.5 to 15 secs.

Type	Description	PK	Cat. No.
TFN 520	1-Channel Thermometer (Lemo connection)	1	**9.908 060**
TFN 520-SMP	1-Channel Thermometer (SMP Connection)	1	**9.908 061** 1
TFN 530	2-Channel Thermometer (Lemo Connection)	1	**9.908 062**
TFN 530-SMP	2-Channel Thermometer (SMP Connection)	1	**9.908 063** 2
TPN 211	Penetration probe, SMP	1	**9.908 064**
TPN 341	Paddle probe, SMP	1	**9.908 065**
TPN 140	Rod probe, 3mm dia., 185mm length, Lemo	1	**9.908 066**
TPN 360	Surface probe up to 500°C, 15mm dia., 30mm length, 1m silicone cable, Lemo	1	**9.908 067**
TPN 230	Penetration probe up to 500°C, 2.1mm dia., 100mm length, silicone cable, Lemo	1	**9.908 068**

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9.908 061

2

9.908 063

Core Thermometer TTX 100/110

ebro

- according DIN EN 13485
- fast measurement
- robust and impact resistant, replaceable battery
- factory calibration certificate

Specifications

Measuring range:	-50 to +350°C
Accuracy:	±0.8°C or ±0.8%, with the bigger value being applicable
Resolution:	0.1°C from -60°C to + 199°C and 1°C, for the remaining measuring range
Housing material:	ABS
Operating temperature:	-20°C to +50°C
Storage temperature:	-30°C to +70°C
Reaction time (90%):	5s
Dimensions:	90mm x 42mm x 17mm
Battery life:	typical 100 h with uninterrupted use
Battery:	CR 2032, replaceable
Cable for TTX 100:	Blue silicone cable, diam. 4mm, length 600mm
Protection class:	IP 55
Temperature probe TTX 100:	Needle diam. 3mm, length 110mm, pointed
Temperature probe TTX 110:	Needle diam. 3mm, length 90mm, pointed

Type	Description	PK	Cat. No.
TTX 100	Fixed probe with cable	1	**6.231 995** 1
TTX 110	Fixed probe without cable	1	**6.230 658** 2
TTX-WM	Wall holder for TTX 100/TTX 110	1	**9.908 026**

1

6.231 995

2

6.230 658

3

6.236 035

Thermometer - Thermocouple Type K TTX 120 with SMP connection, without probe

NEW!

ebro

- Different probes available
- Fast, hígh-accuracy measurement
- Robust and impact-resistant
- Replaceable battery
- Factory calibration certificate

Specifications:

Measurement range type K:	-60°C to +1.200°C
Accuracy Type K:	(at +25°C) ±1°C or ±1%, whichever is larger
Resolution:	0.1°C (-60°C ... +199.9°C) 1°C for the remaining measurement range
Housing material:	ABS
Operating temperature:	-20°C to +50°C
Storage temperature:	-30°C to +70°C
Reaction time (t_{90}):	Depends on probe
Dimensions (L x W x H):	90 x 42 x 17 mm
Battery:	CR 2032, replaceable
Battery lifetime:	Typically 100 hours of uninterrupted use
Protection class:	IP 40

Type	Description	PK	Cat. No.
TTX 120	Thermometer Thermocouple Type K (without probe)	1	**6.236 035** 3
TPN 211	Penetration probe, SMP	1	**9.908 064**
TPN 341	Paddle probe, SMP	1	**9.908 065**

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1 Laboratory Thermometer TFX 410-1, without probe

NEW!

ebro

Robust and impact resistant temperature measurement device for Pt 1000 penetration probe (connection Lemo size 0). For control measurements in laboratories, food sector, storage and incoming goods. For temperature determination of air, liquids, plastic substances, core temperature of food. Conform to HACCP and DIN EN 13485. Please order probes separately. With battery and factory calibration certificate.

Specifications:

Measurement range:	-50°C to +300°C
Accuracy:	±0.3°C
Resolution:	0.1°C
Sensor:	Pt 1000 (connection Lemo size 0)
Operating temperature:	-25°C to +50°C
Automatic switch-off:	After 2 hours, optional
Dimensions (L x W x H):	54 x 22 x 109 mm (without probe)
Weight:	Approximately 90 g
Battery:	3.0 V Lithium, replaceable
Battery lifetime:	Approximately 5 years
Protection class:	IP 67

Type	Description	PK	Cat. No.
TFX 410-1	Laboratory thermometer (without probe)	1	**6.207 171**

1

Measurement Probes Pt 1000 for TFX 410-1, Stainless Steel

NEW!

ebro

- Tube: stainless steel, up to +400°C
- Accuracy: exceeds DIN IEC 584, class 1

2

9.908 021

3

6.233 543

Type	Description	Length mm	Diam. mm	PK	Cat. No.
TPX 100	Blunt probe, without cable	120	3	1	**9.908 021** 2
TPX 200	Pointed probe, without cable	120	3	1	**6.251 438**
TPX 200-20	Pointed probe, without cable	200	3	1	**9.908 022**
TPX 200-30	Pointed probe, without cable	300	3	1	**9.908 023**
TPX 200-40	Pointed probe, without cable	400	3	1	**9.908 024**
TPX 400	Pointed probe with 60 cm silicone cable (red) and grip	120	3	1	**6.233 543** 3
TPX 400-40	Pointed probe with 40 cm silicone cable (red) and grip	120	3	1	**9.908 025**
TPX 400-150	Pointed probe with 150 cm silicone cable (red) and grip	120	3	1	**6.254 169**

4 Laboratory Thermometer TFX 422, calibratable

NEW!

ebro

- PTB approved
- Robust and impact resistand
- High accuracy
- Waterproof IP 67
- Approx. 5 years battery life
- According to EN 13485

Also available with calibration certificate

Specifications:

Measurement range:	-50°C to +200°C
Accuracy:	±0.3°C
Resolution:	0.1°C
Sensor:	Pt 1000 (l 120mm, Ø 3mm)
Operating temperature:	-25°C to +50°C
Deactivation:	Automatically after 2 hours, deactivalable
Dimensions (L x W x H):	109 x 54 x 22 mm (without probe)
Weight:	Approximately 90 g
Battery:	3.0 V Lithium, 1 Ah, type CR 2477, replaceable
Battery lifetime:	Approximately 5 years
Protection class:	IP 67

Type	Description	PK	Cat. No.
TFX 422	Laboratory Thermometer, calibratable	1	**6.207 122**

4

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9.908 075

Precision thermometer TFX 430 (without probe)

ebro

Applications:
- temperature monitoring
- laboratory
- air, liquids, plastic masses
- aggressive media, surfaces
- process monitoring
- reference measurement

Features:
- high accuracy
- four-wire measuring system
- waterproof IP67
- approx. 5 years battery life
- factory calibration certificate
- different probes for different applications

Specifications

Measuring range:	-100 to +500°C
Accuracy:	without probe: ±0.1°C (from -50 to +100°C); remaining measuring range: ±0.2°C with probe: ±0.05°C (from -50 to +199.99°C); remaining measuring range: ±0.2°C
Resolution:	without probe: 0.02°C (from -50.00 to +99.98°C); remaining measuring range: 0.1°C with probe: 0.01°C (from -100 to +199.99°C); remaining measuring range: 0.1°C
Operating temperature:	-20 to +50°C
Storage temperature:	-30 to +70°C
Probes:	Pt100
Measurement interval:	1 to 15 secs, adjustable
Battery:	Lithium 3V, 1Ah, Type CR2477
Deactivation:	Automatically after 2 hours, deactivatable
Dimensions:	109 x 54 x 22mm
Weight:	approx. 90g
Protection class:	IP67
Housing material:	ABS

Type	Description	PK	Cat. No.
TFX 430	Precicion-Thermometer, without probe	1	**9.908 075** 1
TFX 430 + TPX 130	Precicion-Thermometer, with probe (length 130mm, 3mm dia., blunt)	1	**9.908 076**
TFX 430 + TPX 230	Precicion-Thermometer, with probe (length 130mm, 3mm dia., pointed)	1	**9.908 077**
TFX 430 + TPX 330	Precicion-Thermometer, with probe (length 190mm, 8mm dia., glass-coated)	1	**9.908 078**

2

2 Digital thermometer testo 922/925

Testo

Without probe. **With battery and calibration protocol.** For °C, °F, °K. Hold function and battery display.

Model testo 925:
Economical. Very robust. With 1 measuring input.

Model testo 922:
With 2 measuring inputs.

Measuring range:	-50 to +1000°C
Sensor:	Type K (NiCr-Ni)
Accuracy:	-40 to +900°C : ±0.5°C, ±0.3% remaining range: ±0.7°C, 0.5%
Battery:	9V, 6F22

Type	PK	Cat. No.
testo 925	1	**9.851 324**
testo 922	1	**9.851 325**

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Digital thermometers, testo 925 /922, accessory probes

Testo

- Waterproof immersion/penetration probe
- Precise, watertight food probe, stainless steel, resistant to cleaning by aggressive materials and oven-proof up to 205°C
- Precise and rapid, waterproof immersion probe
- Rapid reaction surface probe
- Robust food penetration probe with special handle
- Robust, economical, air probe

Description	PK	Cat. No.
Immersion / penetration probe	1	**9.718 200**
Stainless steel food probe	1	**9.718 201**
Immersion probe	1	**9.718 202**
Surface probe	1	**9.718 222**
Penetration food probe	1	**9.718 203**
Air probe	1	**9.718 230**

Accessories for temperture meters testo 925/922

Testo

Type	For	PK	Cat. No.
TopSafe testo 925	protective cover against impact and dust	1	**9.718 011**
TopSafe testo 922	protective cover against impact and dust	1	**9.718 020**

Digital thermometers testo 110/112

Testo

For use with accessory NTC sensor probes. For control measurements in the food industry and laboratories. Features: switchable °C readout, with Hold function, low battery indicator and battery saving automatic switch-off after a period without use.

With battery and calibration certificate.

Accuracy testo 110:
System accuracy using immersion/penetration probes. -20 to +80°C : ±0.2°C, ±0.3°C: rest of range
Model testo 112:
Suitable for verification use between -50 to +120°C. Accuracy in accordance with notified requirements, with internal temperature monitoring.

Battery: 9V, 6F22

Type	Measuring range °C	PK	Cat. No.	
testo 110	-50 ... +150	1	**9.851 300**	1
testo 112	-50 ... +300	1	**9.851 299**	2

1

9.851 300

2

9.851 299

Digital thermometers testo 110/112, accessories

Testo

For	Type	Diam. mm	Length mm	Measuring range °C	PK	Cat. No.
testo 110	TopSafe (IP68 protective boot)			-	1	**9.718 020**
testo 112	TopSafe (IP68 protective boot)			-	1	**9.718 011**
testo 110	NTC immersion/penetration probe	4	110	-50 ... +150	1	**9.851 716**
testo 110	NTC laboratory probe, glass sheathed	6	200	-50 ... +150	1	**9.851 717**
testo 110	NTC surface probe, with widened measuring tIP	5	115	-50 ... +150	1	**9.851 720**
testo 110	NTC air probe, robust	5	115	-50 ... +125	1	**9.851 723**
testo 112	NTC food probe, appropriate for verification	4	124	-25 ... +120	1	**9.851 315**
testo 112	NTC immersion/penetration probe, appropriate for verification	5	115	-25 ... +120	1	**9.851 348**
testo 112	NTC air probe, appropriate for verification	5	115	-25 ... +120	1	**9.851 349**
testo 110	Robust food penetration probe with special handle	5	115	-25 ... +150	1	**9.851 352**

1

1 Infrared-Thermometer Slim Flash

NEW!

Non-contact temperature measurement via infrared. Response time 1 second.
Measuring range -33 to +199°C, Accuracy ±2°C or 2%, incl. CR2032 button cell.

Dostmann electronic

Type	PK	Cat. No.
Infrared-Thermometer Slim Flash	1	**9.851 998**

2

2 Infra-red thermometer ScanTemp 385

With IR thermometers you can measure surface temperature. A short response time and non-contact measurement are key advantages. ideal for monitoring applications such as:
- moving parts (running paper webs...)
- registering the surface temperature of gears and motors
- checking live electrical parts (components, transformers...)
- newly coated or painted parts
- food and corrosive substances

Specifications

Temperature range:	-35°C to +365°C
Precision:	±2% or 2°C, the higher value counts
Response time:	< 1 sec
Spectral sensitivity:	6 to 14µm
Operating temperature:	0 to 50°C
Optical resolution:	12:1
Laser:	Spot laser
Dimensions (L x W x H):	147.9 x 112.6 x 41.4mm
Weight:	150g (incl. packaging)
Battery:	2 x 1.5V AAA Batteries

Type	PK	Cat. No.
ScanTemp 385	1	**9.851 996**

3

3 Infra-red thermometer ScanTemp 410

Infra-red thermometer with laser aiming. For quick, easy and safe measurement of surface temperatures.
Easy to use: just point, press the button and read the measurement from the large, illuminated display.

Specifications

Temperature range:	-33°C to 500°C
Precision:	±2 % of measurement or 2°C
Response time:	0.5 secs.
Spectral sensitivity:	7 to 18µm
Operating temperature:	0 to 50°C
Optical resolution:	11:1
Laser:	Spot laser
Dimensions (L x W x H):	175 x 39 x 79mm
Weight:	300g (incl. packaging)
Battery:	2 x 1.5V AAA Batteries

Type	PK	Cat. No.
ScanTemp 410	1	**9.851 919**

Infrared Thermometers TFI 250/TFI 54

NEW!

ebro

Non-contact measurement of the surface temperature with infrared. Ideal for fast and secure measurements of moving or energized parts and food. With batteries and factory calibration certificate.

Specifications:

Measurement range:	-60°C to +550°C
Accuracy:	±2°C or 2% (at 0°C to +550°C), whichever is larger
Resolution:	0.1°C
Optical resolution:	12:1
Operating temperature:	0°C to +50°C
Response time:	1 sec.
Emissivity factor:	0.95 fixed (0.1 to 1.0 possible)
Dimensions (L x W x H):	153 x 115 x 48 mm (TFI 250) 144 x 117 x 43 mm (TFI 54)
Weight (with batteries):	177 g (TFI 250), 180 g (TFI 54)
Battery:	2 x 1.5 V AAA, replaceable
Protection class:	IP 20 (TFI 250), IP 54 (TFI 54)

Type	Description	PK	Cat. No.	
TFI 250	Infrared thermometer	1	**9.908 031**	1
TFI 54	Splash water proof infrared thermometer	1	**9.908 032**	2

1

9.908 031

2

9.908 032

3 Dual Infrared Thermometer TFI 550 with NiCr-Ni Connection

NEW!

ebro

Addtional connection for NiCr-Ni temperature probes with SMP-connection.
Please order probes separately.
- Optics D:S = 30:1
- Dual laser
- NiCr-Ni connection for core temperature measurement with penetration probe
- Alarm when Min/Max exceeded
- Factory calibration certificate

Specifications:

Measurement range:	-60°C to +550°C (-76°F to 1022°F)
Accuracy:	±2°C at -18°C to +23°C (±3.6°F at 0°F to 73°F) ±1 % of measurement ±1°C (whichever is larger) at +23°C to +510 C ±1.8°F (whichever is larger) at 73°F to 950°F
Resolution:	0.1°C at -9.9°C to +199°C, otherwise 1°C (0.2°F at 14°F to 391°F, otherwise 1.8°F)
Response time (t_{99}):	Approximately 1 s
Emissivity factor:	0.1 to 1.0
Distance : spot ratio:	30:1
NiCr-Ni probe measurement:	
Measurement range:	-64°C to +1400°C (-83°F to 2552°F)
Connection:	SMP
Accuracy:	±1 % of measurement value/±1°C (±1.8°F), whichever is larger
Battery:	2 x AAA (Micro)
Battery lifetime:	Typically 180 hours
Operating temperature:	0°C to +50°C (32°F to 122°F)
Storage temperature:	-20°C to +65°C (-4°F to 149°F)
Protection class:	IP 20
Weight:	approx. 180g

Type	Description	PK	Cat. No.
TFI 550	Dual Infrared Thermometer (without probe)	1	**6.238 001**

3

1

1 Infrared thermometers, ProScan series

- highest precision due to special glass lens (spot size up to a distance of 14 cm: 1.3 cm constant), measuring time: 0.3 seconds
- relation measuring distance/spot size 20:1(ProScan 510)/ 40:1 (ProScan 520)
- display of current, highest and lowest temperature, hold function, alarm at freely adjustable temperature values (upper/ lower limit),
- with laser sighting, for contact-free measuring of surface temperature
- adjustable visual and acoustic alarm
- ProScan 520: incl. thermocouple sensor type K, USB interface and Windows software.

Accuracy (IR):	±1°C or 1% from +20 ... +530°C ±1.5°C from 0 ... +20°C ±2.5°C from -0.1 ... -20°C ±3.0°C from -20 ... -32°C
Reproducibility:	±0.7°C or 0.5%
Time:	300ms
Spectral sensitivity:	8 to 14µm
Display resolution:	0.1°C (4-digit LCD)
Working temperature range:	0 to 50°C
Voltage supply:	9 V PP3 battery
Dimensions L x W x H:	190 x 38 x 45mm
Weight:	500g (incl. packaging)
Dot laser	

Type	Temp. range °C	Emissivity	Optical resolution	PK	Cat. No.
ProScan 510	-32 ... +530	0.100 - 1.000	20 : 1	1	**9.851 928**
ProScan 520	-32 ... +760	0.100 - 1.500	40 : 1	1	**9.851 929**

2

2 Infrared thermometer, DualTemp Pro, with penetration probe

For simple, rapid, non-contact, temperature measurement.
- dual display
- wide measurement ranges:
- infra-red: -33 to +250°C
- conventional penetration probe: -55 to + 250°C
- measuring spot:distance ratio 2.5:1
- Max./ Min., Hold functions
- auto-off after 15 secs.
- belt-clip included
- accessories: certificate of calibration & pilot drill for taking measurements from frozen items

Specifications:

Resolution:	0.2°C
Accuracy (IR):	-33°C to 0°C ±1.0°C ±0.1/1°C 0°C to +65°C ±1.0°C +65°C to +200°C ±1.5%
Accuracy (penetration probe):	below -5°C ±1.0°C -5°C to +65°C ±0.5°C above +65°C ±1%
Spectral sensitivity:	6 to 14µm
Adjustable emissivity:	0.10 to 1.00
Operating temperature:	0 to 50°C
Battery:	Lithium cell CR2032
Dimensions:	24.2 x 39.8 x 156mm
Weight:	380g (incl. packaging)

Type	PK	Cat. No.
DualTemp Pro	1	**9.851 023**

Combination Infrared and Penetration Thermometer TLC 730

NEW!

ebro

Handy, waterproof infrared thermometer with large measurement range for noncontact measurement of the surface temperature and secure core temperature measurement with the folding penetration probe. For time-saving, precise temperature measurements at incoming goods, production and storage of diverse goods and food. Conform to HACCP and DIN EN 13485.
With battery and factory calibration certificate.

Specifications:

Measurement range:	-50°C to +350°C
Accuracy infrared:	±4°C at -50°C to -30.1°C ±2.5°C at -30°C to -18.1°C ±1.5°C at -18°C to -0.1°C ±1.0°C at 0°C to +65°C ±2.0°C or 2 % at +65°C to +350°C
Accuracy penetration probe:	±0.5°C at -18°C ... +120°C Otherwise ±1°C [1%], whichever is larger
Resolution:	0.1°C
Sensor:	Type K
Operating temperature:	-25°C to +50°C
Dimensions (L x W x H):	48 x 24 x 172 mm (without probe)
Weight:	Approximately 140 g
Battery:	2 x 1.5 V AAA, replaceable
Deactivation:	Automatically after 15 sec., deactivatable
Protection class:	IP 55

1

6.241 105

Type	Description	PK	Cat. No.
TLC 730	Combination infrared and penetration thermometer	1	**6.241 105** 1
AG 121	Nylon case for TLC 730	1	**6.207 112**

Disposable data logger ITAG-PDF

NEW!

Dostmann electronic

ITAG-PDF, the innovative single-use data logger with a built-in USB connector, is ideal solution for low-cost temperature monitoring of transports.
ITAG-PDF loggers will be supplied according each customer's specifications.

Product features
- Recording cycle (24h, 5 days, 10 days, 15 days, 30 days, 60 days)
- ON-Board PDF report generator, no software required
- Built-in USB connector, no hardware required
- Bank-card size
- Quick-start with START-STRIP TM
- Easy to read LED ind
- Food-safe packaging
- Free costumisation service
- Includes Certificate

At quantities of 100 pieces, the ITAG logger can be customized.
Following pre-programmed settings can be made free of charge:
- Upper and lower alarm set point (e.g. <+2°C and >+8°C)
- Alarm delay (default: 30 min.)
- Start delay (default: 0 min.)

Specifications:

Temperature Range:	-30°C to +70°C
Accuracy:	±0.3°C from -20°C to +30°C, otherwise ±0.5°C
Resolution:	0.1°C
Data Memory:	7200 measurements
Recording Cycle*:	24 hours to 60 days
Sampling Interval*:	12 sec. to 12 min.
Shelf Life:	12 months
Dimensions (L x W x H):	80mm x 52mm x 4mm
Weight:	16.5g
Protection Class:	IP 65
System Requirements:	Adobe® Reader
Certifications:	Calibration Certificate, CE, RoHS

2

9.726 425

For	Interval	PK	Cat. No.
24 hours	12 sec	1	**9.726 425** 2
5 days	1 min	1	**9.726 426**
10 days	3 min	1	**9.726 427**
15 days	3 min	1	**9.726 428**
30 days	6 min	1	**9.726 423**
60 days	12 min	1	**9.726 424**

*dependent on model

1

9.908 069

Data Logger EBI-20 T1/EBI-20 TH1/EBI-20-TE1

ebro

Applications:
- reliable temperature and temperature/humidity recording
- transport
- storage monitoring
- refrigeration areas and coldrooms

Features:
- excellent price/performance ratio
- waterproof
- visual Alarm
- max/min values on display
- stores 40.000 readings, can be read off at any time
- replaceable battery

Specifications

Measuring range temperature:	-30 to +60°C
Measuring range humidity:	0% to 100% R.H.
Accuracy, temperature:	±0.5°C (-20 to +40°C); ±0.8°C for remaining measuring range
Accuracy, humidity:	±3% R.H. (10 to 90% R.H.)
Resolution temperature:	0.1°C
Resolution humidity:	0.1% R.H.
Memory:	40.000 samples
Sensor:	NTC for temperature/capacitive for humidity
Operating temperature:	-30 to +60°C
Storage temperature:	-40 to +60°C
Measuring period:	1 minute to 24 hours
Measuring mode:	immediate loop measurement, measurement from starting point, start immediately until memory full, start/stop measuring, start when button pressed
Battery:	3V lithium (CR 2450), can be replaced by user
Protection class:	IP 67 (EBI-20 T1); IP 52 (EBI-20 TH1)
Housing:	ABS
Dimensions:	69mm x 48mm x 22mm
Weight:	approx. 45g

2

6.228 382

Type	Description	PK	Cat. No.	
EBI-20 T1	Temperature Logger	1	**9.908 069**	1
EBI-20 TH1	Temperature Humidity Logger	1	**9.908 070**	
EBI-20-TE1	Temperature Logger with external probe	1	**6.228 382**	2
EBI-20 T1-Set	Starter-Set (Temperature Logger, evaluation software, Interface)	1	**9.908 073**	
EBI-20 TH1-Set	Starter-Set (Temperature Humidity Logger, evaluation software, Interface)	1	**9.908 074**	
EBI-20-TE1-Set	Starter-Set (Temperature Logger with external sensor, evaluation software, Interface)	1	**6.240 382**	
EBI-20 AUF	Wall mounting	1	**9.908 079**	
EBI 20-WM1	Truck wall holder	1	**6.242 239**	

We can supply this manufacturer's whole product range !

partner of the LLG Lab Logistics Group

-ebro- a xylem brand

E & OE.
www.wenk-labtec.com

Standard USB Data Logger EBI 300

NEW!

ebro

- For temperature monitoring related to HACCP/IFS issues or other perishable goods
- Transportation of fresh, cool and deep cool products
- Monitoring of fridges and deep freezers
- Evaluation without software

Benefits:
- Access the data anywhere with the automatically generated PDF report and any PDF software
- Minimise training, user errors and IT costs using EBI 300's simple, easy to use design and standard software.
- Ensure data integrity since no data manipulation is possible
- EN 12830, ATP, VO(EG) 37/2005 Compliant
- Factory calibration certificate included

Specifications

Measuring range:	-30°C to +60°C
Accuracy:	±0.5°C (-20°C to +40°C); ±0.8°C for remaining measuring range
Resolution:	0.1°C
Memory:	40.000 samples
Sensor:	NTC for temperature
Battery life time:	up to two years
Measuring period:	1 minute to 24 hours
Maximum Start Delay:	72 hrs
Housing material:	Polycarbonate
Measuring modes:	Start/Stop, endless loop, start with button
Alarms:	High and low limits
Weight:	35g
Protection class:	IP 65
Programming Software:	Winlog.basic, Winlog.light and Winlog.pro

Type	Description	PK	Cat. No.	
EBI 300	Standard USB Data Logger with calibration certificate	1	**7.655 865**	1
TPC 300	External NTC probe	1	**9.908 027**	2
EBI 300 WM	Wall Bracket	1	**9.908 101**	

1

7.655 865

2

9.908 027

High Precision USB Data Logger EBI 310

NEW!

ebro

- Transport of drugs, inoculants, blood products and primary products
- Transport of all temperature sensitive products
- Storage of reference samples in refrigerators and deep-freezers

Attributes:
- USB-Port for PC and Notebook
- automatic pdf-report creation with temperature/time values
- easy battery exchangeable
- "traffic light principle" by limit exceeded
- waterproof

Specifications

Operating Temperature:	-30°C to +75°C
Accuracy:	±0.2°C (-30°C to +30°C) ±0.5°C for the remainder
Resolution:	0.1°C
Sensor:	Pt1000/NTC
Channel:	1
Memory Capacity:	120.000 measurements
Battery Life:	2 Years
PDF/LED:	Yes
Weight with battery:	35g
Protection class:	IP 65

Type	Description	PK	Cat. No.	
EBI 310	High Precision USB Data Logger	1	**9.908 098**	3
TPX 220	Temperature Probe	1	**9.908 099**	4
TPX 250	Temperature Probe	1	**9.908 100**	
EBI 300 WM	Wall Bracket	1	**9.908 101**	

3

9.908 098

4

9.908 099

1

7.626 604

Mini data logger testo 174T

The mini data logger for temperature, testo 174T, is ideal for accompanying transports. *Testo*
Simply positioned close to the goods, e. g. in containers and refrigerated rooms, the data logger monitors temperature continuously, securely and unobtrusively.
The free software ComSoft testo 174 allows fast programming of the data logger and easy analysis.

- High data integrity, even with empty battery
- Large measurement data memory
- Watertight in accordance with IP65
- Compact and robust
- Conforms to EN12830
- Issue of alarms via display
- Data transfer to the PC via USB interface
- Reliable temperature measurement for the monitoring of sensitive goods and cold chain during storage and transport

2

7.626 614

Specifications

Probe type:	Internal NTC temperature sensor
Measuring range:	-30 to +70°C
Accuracy:	±0.5°C
Resolution:	0.1°C
Operating temperature:	-30 to +70°C
Storage temperature:	-40 to +70°C
Battery type:	2 x 3V button cell (2 x CR 2032 lithium), can be changed by user
Battery life:	500 days (15 min measuring cycle, +25°C)
Protection class:	IP65
Meas. cycle:	1min - 24h (can be selected)
Memory:	16.000 readings
Software:	can be used with Windows XP, Vista, Win7

Type	Description	PK	Cat. No.
testo 174T	Mini data logger, 1-channel, incl. wall bracket, battery (2 x CR 2032 Lithium) and calibration protocol	1	**7.626 604** 1
testo 174T set	Mini data logger, 1-channel, incl. USB interface for programming and reading out the logger, wall bracket, battery (2 x CR 2032 lithium) and calibration protocol	1	**7.626 614** 2

E & OE.
www.wenk-labtec.com

Mini data logger testo 174H

Testo

The mini data logger for temperature and humidity, testo 174H, is ideal for monitoring temperature and humidity sensitive goods in storage. The testo 174H also monitors building climate, continuously, securely and unobtrusively. The free software ComSoft testo 174 allows fast programming of the data logger and easy analysis.

- Humidity sensor with long-term stability
- High data integrity, even with empty battery
- Large measurement data memory
- Display of the current temperature or humidity value
- Large measuring range
- Compact and robust
- Issue of alarms via display
- Data transfer to the PC via USB interface

1

6.239 884

Specifications

Probe type:	NTC temperature sensor and internal capacitive humiditiy sensor
Measuring range:	0 to 100% RH, -20 to +70°C
Accuracy:	±0.5°C, ±3% RH
Resolution:	0.1% RH, 0.1°C
Operating temperature:	-20 to +70°C
Storage temperature:	-40 to +70°C
Battery type:	2 x CR 2032 lithium
Battery life:	1 year (15 min measuring cycle, +25°C)
Protection class:	IP20
Meas. cycle:	1min to 24h (can be selected)
Memory:	16000 readings
Software:	can be used with Windows XP, Vista, Win7

2

6.239 883

Type	Description	PK	Cat. No.
testo 174H	Mini data logger, 2-channel, incl. wall bracket, battery (2 x CR 2032 lithium) and calibration protocol	1	**6.239 884** 1
testo 174H-Set	Mini data logger, 2-channel, incl. USB-interface for programming and reading out the logger, wall bracket, battery (2 x CR 2032 lithium) and calibration protocol	1	**6.239 883** 2

3 Data logger LOG100 for temperature and LOG 110 for humidity

Dostmann electronic

Large display for actual value, battery status display, easy to use software. Perfect designed instrument for transportation or storage.

- quality surveillance in laboratories, at the production or in the storage
- ambient conditions in manufacturing facilities
- monitoring from storages after HACCP
- ambient conditions in power plants
- monitoring of fridges for the pharma industry

Please order Software with USB-cabel separately (9.726 413)

3

Specifications

Temperature

Measuring range:	-30 to +70°C
Accuracy:	0.1°C
Precision:	±0.5°C (0 to +40°C), otherwise ±0.7°C

Humidity (Art. No. 9.726 412)

Measuring range:	0 to 99% R.H.
Resolution:	0.1% R.H.
Accuracy:	±3% R.H.
Housing:	Plastic (ABS)
Battery:	1 x CR2032 3V
Dimensions:	92 x 55 x 21mm
Weight:	95g (incl. packaging)
Alarm function:	Alarm for too low or too high temperatur and/or humidity values Calibration reminder

Type	PK	Cat. No.
Temperature data logger LOG 100	1	**9.726 411**
Temperature / Humidity data logger LOG 110	1	**9.726 412**
Windows Software DE-Graph for LOG 100 and LOG 110 with USB-cabel	1	**9.726 413**
external temperature sensor, 3 x 40 mm, -50 to +120°C with 3 m wire	1	**9.726 416**
external temperature sensor, 3 x 40 mm, -50 to +120°C with 8 m wire	1	**9.726 417**

1 2 3 LOG32 Temperature/Humidity logger

- Can store up to 32000 measurements (16000 per sensor)
- Freely selectable measuring intervals from 2 seconds up to 24 hours
- battery life time approx. 2 years
- status indication using 2 x LED lamps
- built-in USB interface
- WindowsTM-compatible software (german/english/french) included
- wall mounting

Applications:
Offers the best solution to record ambient humidity and temperature data of transport containers, storage, laboratory, production plant, greenhouses etc.
- quality control in laboratory, production or warehouse facilities
- monitoring warehouse and cooled transport according to HACCP
- ambient temp in power plants
- monitoring medical refrigeration equipment

Specifications

Temperature

Measuring range:	-40 to +70°C
Accuracy:	0.1°C
Precision:	±1.0°C (-20 to +50°C), otherwise ±2.0°C

Humidity

Measuring range:	0 to 100%R.H.
Resolution:	0.1% R.H.
Accuracy:	±3% R.H.
Housing:	Plastic (ABS)
Battery:	1 x 3.6V ½ AA Lithium
Dimensions:	130 x 30 x 25mm
Weight:	117g (incl. packaging)

Type	PK	Cat. No.
LOG32	1	**9.726 407**

1

2

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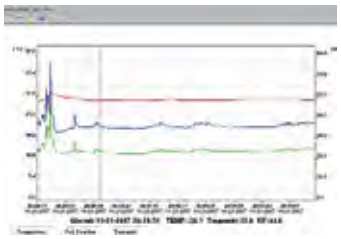


1 Mechanical stopwatch

Start/stop/reset by single crown, clockwork mechanism, 13 jewels,
chrome metal case, measuring range 15 minutes,
1/10 second increments. Supplied with lanyard and soft case, diam. 50mm, 250g (incl. packaging)

Type	PK	Cat. No.
Mechanical stopwatch	1	**9.851 021**

1

2 Stopwatch, mechanical

Amigo. Impact resistant. Unbreakable spring movement. 55mm diameter ABS case. *Hanhart*
Supplied with 120cm lanyard.

Time intervals secs.	Display mins.	PK	Cat. No.
1 / 10	15	1	**9.262 410**
1 / 5	30	1	**9.262 411**

2

3 Stopwatch Tristop, mechanical

Separate 1/10 second display magnified 10 times. *Hanhart*
Chrome-plated ABS housing with neck cord (120cm), 7 jewel, pin lever movement.
1/5 sec. divisions. 0 to 30 minute face.

Type	PK	Cat. No.
Tristop	1	**9.262 510**

3

4 Stopwatch, mechanical

Impact resistant, dustproof and water resistant. *Hanhart*
With diamond-turned metal case. 55mm diameter. Built-in strap ring.

Time intervals secs.	Display mins.	PK	Cat. No.
1 / 5	30	1	**9.262 005**
1 / 10	15	1	**9.262 010**

4

1

1 Stopwatch, mechanical

Impact resistant, dustproof, water resistant. With diamond-turned metal case. 55mm diameter. Built-in strap ring. 2 push-buttons.

Hanhart

Time intervals secs.	Display mins.	PK	Cat. No.
1 / 5	30	1	**9.262 205**
1 / 10	15	1	**9.262 210**

2

2 Stopwatch SL 110

- 1/100 sec. timer up to 40 minutes, 1 sec. timer for 40 minutes up to 24 hours
- lap time function
- time in 12/24-hour-format
- time, month, day, alarm
- snooze function
- splash water resistant
- Incl. 1 x 1.5V button cell SR44
- dimensions: 70 x 60 x 23 mm
- weight: 51g

Type	PK	Cat. No.
SL 110	1	**6.230 554**

3

3 Stopwatch, HiTRAX Run

1/100 seconds,max. 23 hours, 59 minutes, 59 seconds, split time, clock, date, alarm. Supplied with 3V Lithium long-life battery CR 2032 button cell:
Dimensions: 78 x 58 x 12 mm
Weight: 60g

Type	PK	Cat. No.
HiTRAX Run	1	**9.851 020**

4

4 Stopwatch Stopstar 2, digital

Stopstar 2. ABS housing with lanyard. Temperature range -10 to +55°C. With 7-digit, 7mm high LCD readout. Start/Stop/Reset, Cumulative (as often as required), Split interval timing (as often as required), dual measurement of two events in quick succession.
Time display: 9hrs, 59mins, 59.99sec.
Battery life approx. 2 to 3 years.
Supplied with button cell (IEC R 6).

Dimensions: 82 x 61 x 28mm
Weight: 70g

Type	PK	Cat. No.
Stopstar 2	1	**9.262 062**

1 Stopwatch, digital

Profile LCD.
2 button operation, with 5 event memory, each with split and lap times, 8 mm high LCD readout, 7-figure + 2 event counter, display range: 9hrs, 59mins, 59.99secs. With Start/Stop/Reset, Add./Split/Lap, time functions.

Type	PK	Cat. No.
Stopwatch, digital	1	**9.262 111**

2 Stopwatches, Delta E series

Delta E 100
- 65 memories with evaluation, fast run/memory functions
- Large, clear, 2.5-line LCD readout with 7mm high digits
- Battery status indicator
- Function window for Lap, Short-Lap and time. Date indicator and pre-settable split time from the real-time clock
- Mode function button
- Display and memory button.

Delta E 200
Generally as Delta E 100 model, but additionally with:
- Pacer function (1 to 300 strokes/min.)
- Countdown function
- Countdown and stopwatch can be used simultaneously.

Type	Colour	PK	Cat. No.
Delta E 100	black	1	**9.262 520**
Delta E 100	red	1	**9.262 521**
Delta E 200	black	1	**9.262 530**

3 Stopclock, analogue, Mesotron

Quartz-accurate timer with large, analogue display.
Measuring range: 0 to 60 secs, 0 to 60 mins. Inner scale 1 to 100 secs/100 mins.
110 mm dia.
Battery life over 18 months with a 1.5 V button cell.
Dimensions (WxDxH): 130 x 40/95 x 175 mm
Weight: 375 g

Type	PK	Cat. No.
Mesotron stopclock	1	**9.262 080**

4 Interval timer with alarm

Benchtop mechanical timer. Suitable for standing, hanging and in addition on the back of two magnets, which allows the fitting of metal parts. Casing and rotary setting knob are white, the dial is black. Running time max. 60mins.

Dimensions (WxDxH): 65 x 35 x 65mm

Type	PK	Cat. No.
Interval timer with alarm	1	**9.260 020**

1

1 LLG-Short period timer

Timer and stopwatch, up to 99min. and 59sec., rubber coated, with magnetic attachment, battery LR 44 inclusive, diam. 54 x 16.5mm, approx. 40g
Easy to use, great display.

Type	PK	Cat. No.
Electronic Countup Timer	1	**9.260 150**

2

2 Short period timer

Electronic timer and stopwatch with large display and 10-key setting. Counts up or down from 10 hours to 1 second. With pocket clip, bench stand, magnetic attachment and battery. Overall 70 x 60 x 25mm, weight 95g.

Type	PK	Cat. No.
Timer II	1	**9.851 027**

3

3 Short period timer KT188

- countdown timer from max. 99 mins., 59 secs.
- 30 Sec. loud audible alarm sounds when 'zero' reached
- with magnet.
- supplied with 'SR 44' 1.5 V button cell.

Dimensions (WxDxH): 88 x 12 x 46 mm
Weight: 30 g

Type	PK	Cat. No.
Short period timer KT188	1	**9.260 188**

4

4 Electronic timer clock

Count down/count up timer with loud alarm signal at end of timed period. *Amarell*
With Clock, Stopwatch and Memory functions. Timer up to 24 hours.
Fittings: magnet, stand and clip.
Dimensions (WxDxH): 68mm x 53mm x 20mm, with battery.

Type	PK	Cat. No.
Electronic Timer Clock	1	**9.235 145**

5

5 Countdown timer TR 113

- large, 4 digit, LCD readout *Oregon Scientific*
- countdown/countup 99 min. 59 sec.
- measuring cylinders Audible alarm sounds when 'zero' reached
- with pocket clip/bench stand and magnet
- with 1x 1.5V AAA battery
- dimensions: 73 x 66 x 18mm
- weight: 61g

Type	PK	Cat. No.
TR 113	1	**6.700 333**

1 3-channel-short period timer

Indispensable for laboratories. Triple timer with large display. *Dostmann electronic*

- Indicates three separate times simultaneously
- Stopwatch function
- Integrated quartz watch
- Supplied with magnet and clip

Technical Specifications

Range:	1sec to 20hours
Operating temperature:	0 to 50°C
Power supply:	1.5V AAA
Dimensions (WxDxH):	88 x 71 x 24mm
Weight:	115g

Type	PK	Cat. No.
3-channel-timer	1	**6.233 690**

1

2 Laboratory Short period timer Compact

Compact.
Countdown/Countup.
Digital reading, with alarm and repeat function.
12hr. clock function.
Countdown and countup display: 23hrs, 59mins, 59secs.
Dimensions (WxDxH): 64 x 60 x 16mm
Weight: 40 g

Type	PK	Cat. No.
Compact	1	**9.262 071**

2

3 Short period timer with clock

Easy to operate.
Quartz-accurate. With electronic alarm signal.
Adjustable from 1 sec. to 24 hrs.
Memory.
Dimensions (WxDxH): 80 x 45 x 85 mm
Weight: 120 g

Type	PK	Cat. No.
Microchronometer with clock	1	**9.260 187**

3

4 Short period timer WB 388

Three separate timers in one instrument. Countdown/countup.
Audible alarm sounds when 'zero' reached. 12/24 hour clock. Loud/soft alarm switch.
Dimensions (WxDxH): 83 x 22 x 70mm
Weight: 80g

Type	PK	Cat. No.
WB 388	1	**9.260 184**

4

5 Dual short period timer WB 388 TR 118 OS

- Large, 6 digit, LCD readout
- 2 separate timers in one instrument
- Countdown/countup 99 hrs. 59 mins. 59 secs.
- Clock function switch
- Audible alarm sounds when 'zero' reached
- With pocket clip/bench stand and magnet
- Supplied with AAA 1.5V battery

Dimensions (WxDxH): 73 x 66 x 18mm
Weight: 63g

Type	PK	Cat. No.
TR 118 OS	1	**9.260 186**

5

1

1 Digi-Clock timer, TR 119 OS

- Large, 6-digit LCD display
- Programmable for up to 23 hrs, 59 mins, 59 secs.
- 1-minute audible alarm when timed period has expired
- Countdown or countup functions
- Time display
- Case incorporates combined bench stand/pocket clip with magnet.
- Supplied with 1 x 1.5V AAA battery.

Dimensions (WxDxH): 73 x 70 x 19mm
Weight: 50g

Type	PK	Cat. No.
TR 119 OS	1	**9.260 189**

2

2 Microchronometer, TR 112 OS

- 4-figure LCD time readout for minutes and seconds
- Programmable for up to 99 mins, 59 secs.
- 30-second audible alarm when timed period has expired
- Countdown
- Timer memory function
- Case incorporates combined bench stand/pocket clip with magnet
- Supplied with 1 x 1.5V AAA battery

Dimensions (WxDxH): 66 x 56 x 18mm
Weight: 45g

Type	PK	Cat. No.
TR 112 OS	1	**9.260 181**

3

3 Benchtop timers, countdown/countup, Prisma series

Prisma 200.
- ABS plastic case
- Large, easy to read LCD display
- Stopwatch function
- Normal time display
- Selectable time resolution 999mins., 59 secs. or 9 hrs., 59 mins., 59 secs., 1/10 sec.
- Loud audible alarm
- 2 channels with start/stop operation, either separately or together.

Prisma 400.
Generally as Prisma 200, but additionally with:
- Sequence programming
- Function window
- 4 channels.

Type	Colour	PK	Cat. No.
Prisma 200	white	1	**9.260 178**
Prisma 400	white	1	**9.260 179**

4

4 Time switches

With earthed plug. *Theben*

Timer 26
- Daily programme adjustable in 15 min. segments

Eltimo 020 S
- Switch-on intervals: 10 to 120 min.
- Switching capacity 3500 W
- Power reserve 500 h
- Shortest switching time: 1 min
- Digital plug-in timer with weekly program

Type	PK	Cat. No.
Timer 26	1	**9.000 030**
Eltimo 020 S	1	**9.000 031**

1 Radio alarm clock RM 912 BOS

- time adjustment and synchronization via radio signal DCF-77 for Central European time zones only
- with 24 hour display with hh: mm: ss
- date display: day/month
- weekday display in choice of 4 languages
- second time zone function
- time and date manually adjustable
- radio signal strength display in 3 stages
- backlighting by pressing on the snooze button (5 sec.) and during the alarm (5 sec.)
- alarm function
- snooze function (8 mins.)
- 2-minute crescendo alarm
- easy adjustment "24h Alarm off" and "Permanent On/Off"
- two independent alarm times can be set
- battery change display
- supplied with 2 x 1.5V 'AAA' batteries.
- colour: silver-blue

Dimensions (WxDxH): 85 x 47 x 107 mm
Weight: 160 g

Type	PK	Cat. No.
RM 912 BOS	1	**6.237 724**

2 Radio controlled wall clock

- Highest precision radio-controlled clock
- Analogue display with second hand
- Digital display of date
- Large dial
- Ideal for home, office, waiting room, lobby or entrance hall and as a gift
- Ø 300mm
- Battery included 1.5 V AA

Type	PK	Cat. No.
Radio controlled wall clock	1	**9.851 019**

3 Thermohygrometer, Klimatherm

Spun metal case with dial, separate humidity and temperature indicators, and brass hanging ring. *TFA Dostmann*

Measuring range
Relative humidity: 15 to 100%
Temperature: 0 to 40°C
Weight: 90g

Diam. mm	PK	Cat. No.
100	1	**9.726 404**

4 Thermohygrometer, analogue

Synthetic hair, spun metal case with dial and brass hanging ring. *TFA Dostmann*

Measuring range
Relative humidity: 0 to 100%
Temperature: -15 to 55°C
Wieght: 105g

Diam. mm	PK	Cat. No.
100	1	**9.726 403**

1

1 Thermohygrometer

Amarell

Universal application thermohygrometer with outdoor probe and stand/attachment device. Accessory wall mounting (screws or adhesive tape) are available on request.

Specifications

Measuring range:	-50 to +70 x 0.1°C switchable to °F 20 to 90 x 1% R.H.
Dimensions (WxDxH):	approx. 65mm x 20mm x 97mm

Type	PK	Cat. No.
Thermohygrometer	1	**9.235 135**

2

2 Thermohygrometer, TA 100

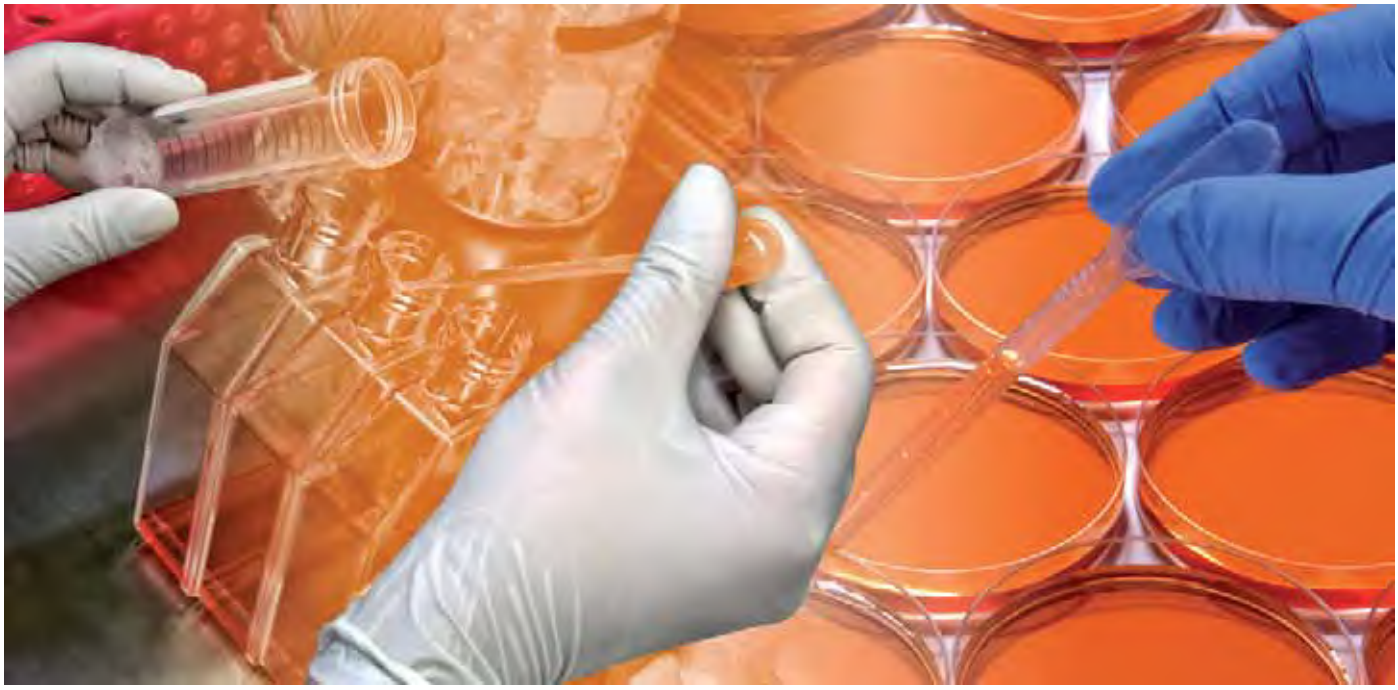
TFA Dostmann

- Very fast humidity sensor
- Dewpoint and max./min. function
- °C/°F-switchable
- Hi-Lo alarm with red warning LED

Specifications

Temperature	
Measuring range:	-40°C to +70°C
Display resolution:	0.1°C
Accuracy:	±0.5°C (0°C to 60°C) remaining range ±1°C
Humidity	
Measuring range:	0% to 99% R.H.
Display resolution:	0.1%
Accuracy:	±3% from 35% to 75% remaining range ±5%
Working temperature:	-40°C to +70°C
Batteries:	2 x 1.5 Volt AAA
Dimensions:	105mm x 105mm x 44mm
Weight:	150g (incl. packaging)

Type	PK	Cat. No.
TA 100	1	**9.726 405**



1 Thermohygrometers testo 623

1

Testo

- The new testo 623 thermohygrometer displays current and past temperature and humidity values on a large, clear display.
- Histogram shows current and recent historical temperature or humidity values
- Large, highly legible display
- Curve display of the last 90 days

Specifications:

Meas. units:	Temperature: °C, °F Humidity: %r.F., td, wb
Meas. range:	-10 to +60°C 0 to 100% RH
Resolution:	0.1°C 0.1% RH
Accuracy ±1 digit:	±0.4°C ±2% RH at +25°C (10 to 90% RH) ±3% RH (rest of range) Time: ±3 minutes/year
Display:	LCD
Measuring rate:	20 secs
Alarm function:	LED alarm for too low or too high temperatur and/or humidity values Calibration reminder
Storage temp.:	-20 to +60°C
Oper. temp:	-10 to +60°C
Battery type:	4 x AA
Battery life:	12 months
Dimensions (L x W x H):	185 x 105 x 36mm
Weight:	240g (without batteries)

Type	PK	Cat. No.
testo 623	1	**9.718 668**

2 Thermohygrometer testo 622

2

Testo

In addition to temperature and humidity, the testo 622 also measures barometric pressure. The large, clear display indicates current readings, as well as the date and time. It thus provides all important values at a glance.

Specifications:

Meas. units:	Temperature: °C,°F Humidity: %rH, td, wb Pressure: hPa, mbar, kPa, in Hg, in H_2O, psi
Meas. range:	-10 to +60°C 0 to 100%RH 300 to 1200hPa
Resolution:	0.1°C 0.1% RH 0.1hPa
Accuracy ±1 digit:	±0.4°C ±2%RH at +25°C (10 to 90%RH) ±3%RH (rest of range) ±3hPA
Display:	LCD
Measuring rate:	10secs
Alarm function:	LED alarm for too low or too high temperatur and/or humidity values Calibration reminder
Storage temp.:	-20 to +60°C
Oper. temp:	-10 to +60°C
Battery type:	4 x AA
Battery life:	12 months
Dimensions (L x W x H):	185 x 105 x 36mm
Weight:	240g (without batteries)

Type	PK	Cat. No.
testo 622	1	**9.718 667**

1

1 Hygrothermograph with spring movement or quartz clock

White plastic-coated metal casing, with high quality bimetallic temperature measuring system. *Thies*

Spring movement type:

Measuring range:	0 to +40°C 0 to 100% R.H.
Dimensions (H x D x W):	280 x 140 x 260mm
Recording:	7 days/24 hrs selectable
Humidity measuring element:	"K"

Quartz clock type:

Measuring range:	-10 to +50°C/10 to 100% R.H.
Operation period:	1, 7 and 31 days selectable

Other measuring ranges are available on request.

Type	PK	Cat. No.
Spring clock	1	**9.726 560**
Quartz clock	1	**9.726 531**
Quartz clock, with plastic hood	1	**9.726 533**

2

2 Precision handheld instruments P700 series

For temperature, moisture and airflow. *Dostmann electronic*

For highly accurate temperature measurements with USB PC online interface.
(Optional: Windows SmartGraph software for graphical and tabular documentation, etc). Integral probe calibration for sensor tolerance compensation. Min.- Max.- Hold- and AVG- functions. The large LCD shows two measurements synchronously, even temperature differences can be displayed (P705, P755, P755-Log, P770).

Specifications

General (all models):
USB interface, Max-Min memory, Hold function, true average calculation over a freely selectable period, Auto-off function, measured quantities can be freely assigned to instrument channels, comprehensive calibration options (selectable 1-point, 2-point or 3-point calibration), large display with bar graph for simultaneous display of 2 measured values

P700/P705:
1/2 measurement channels (Pt100 4-wire probe, thermocouples type J, K, L, N, T, R, S), measurement ranges and accuracies: Pt100:-200 to +850°C (±0.1°C -100 to +200°C, otherwise ±0.1% of measurement value) thermocouples, DIN types (-200 to +1760°C)

P710/P715:
1/2 measurement channels (Pt100 4-wire probe, thermocouples type K, J, L, N, T), measurement ranges and accuracies: Pt100: -200 to +1370°C (±0.2°C -40 to +200°C, ±0.5 to 1000°C otherwise ±0.1°C of measurement value) Thermocouples acc. to EN 60584-1

P750/P755/P755-Log:
1/2 measurement channels (Pt100 4-wire probe, thermocouples type J, K, L, N, T, R, S, moisture, flow), measurement ranges and accuracies: Pt100: -200 to +850°C (±0.03°C -50 to +200°C, ±0.05°C -200 to +200°C, otherwise ±0.05% of measurement value), thermocouples, DIN type (types J, K, L, N, T 0 to 200°C, ±0.3°C, +200 to +1000°C ±1.0°C, otherwise ±.5°C;
type R, S ±1.0°C +0.1% of measurement value) humidity 0 to 100% R.H. (±0.5%R.H.), flow 0 to 40 m/s (±0.5% of measurement value +1.0% of final value)

P770:
2 measurement channels (Pt100, thermocouples type J, K, L, N, T, R, S, moisture, flow), measurement ranges and accuracies: Pt100: -200 to +850°C (±0.1°C -100 to +200°C, otherwise ±0.1% of measurement value) thermocouples, DIN types, humidity 0 to 100%R.H. (±0.5%R.H.), flow 0 to 40 m/s (±0.5% of measurement value)
Dimensions (L x W x D)/ weight: 200 x 85 x 40mm/300g

Type	Description	PK	Cat. No.
P700	1 channel, Pt100	1	**9.852 000**
P705	2 channel, Pt100	1	**9.852 001**
P710	1 channel thermocouples Type K, J, L, N, T	1	**9.852 002**
P715	2 channell thermocouples Type K, J, L, N, T	1	**9.852 003**
P750	1 channel, Pt100, moisture, dew piont, flow	1	**9.852 004**
P755	2 channel, Pt100, moisture, dew point, flow	1	**9.852 005**
P755-Log	2 channel, Pt100, moisture, dew point, flow, with datalogger for 6000 values	1	**9.852 006**
P770	2 channel, Pt100, moisture, dew point, flow	1	**9.852 007**
P770-Log	2 channel, Pt100, moisture, dew point, flow, with datalogger for 6000 values	1	**9.852 008**

Accessories for hand-held meters Serie P700

Description	PK	Cat. No.
Immersion probe Pt100, -50 to +350°C, Cl. B, 150x3mm	1	**9.851 935** 1
Immersion probe Pt100, -50 to +350°C, Cl. B, 300x3mm	1	**9.851 936**
Immersion probe Pt100, -200 to +450°C, ±0.03°C, 150x3mm	1	**9.851 937**
Immersion probe Pt100, -200 to +450°C, ±0.03°C, 300x3mm	1	**9.851 938**
Insertion probe Pt100, -200 to +500°C, Cl. B, 150x4mm	1	**9.851 948**
Immersion probe NiCr-Ni/Type K, -40°C to +1100°C, Cl. 1, 300x1.5mm	1	**9.851 949**
Surface probe NiCr-Ni/Type K, T90 3 sec., max. +400°C, 120x6mm	1	**9.851 957** 2
Temp. / relative Humidity -40 to 80°C / 0 to 100%, 120x20mm	1	**9.851 954** 3
Airflow Turbine probe 0 to 20m/s, diam. 22 x 28mm, 150mm lg.	1	**9.851 955** 4
Software DE-Graph for 95 / 98 / 2000 / NT / Vista	1	**9.851 925** 5
Service case suitable up to 3 probes & accessories	1	**9.851 924**
PC-Cable for USB port	1	**6.242 171**
Power supply 230 V	1	**9.851 959**

1

9.851 935

2

9.851 957

3

9.851 954

4

9.851 955

5

9.851 925

6 CO_2 Meter, Air CO_2ntrol 3000

- Large display
- Measuring range: 0 to 3000ppm
- Incl. Power supply for 230 VAC
- 24-hour data logger
- Adjustable Alarm
- C°/°F-selectable
- Relay output for ventilation control

Applications:
Ideal for monitoring the environment (CO_2 concentration) in public buildings, such as universities,schools
- Hospitals
- Education
- Office
- Production plants
- Public Facilities

Specifications

CO_2

Range:	0 up to 3000ppm
Resolution:	1ppm (0 up to 1000ppm); 5ppm (1000 up to 2000ppm); 10ppm (<2000ppm)
Accuracy:	50ppm or 5%, larger value applies

Temperature

Range:	0 up to +50°C
Resolution:	0.1°C
Accuracy:	±1% or 1°C, larger value applies
Display:	7 segment LCD(twin-lined)
Housing:	Plastic (ABS)
Supply requirements:	230 VAC adapter or 4 x AA Batteries
Dimensions:	165 x 80 x 23mm
Weight:	600g (incl. packaging)

Type	PK	Cat. No.
Air CO_2ntrol 3000	1	**9.726 408**

6

1

1 Weather station, Diva Plus

TFA Dostmann

- transmission of outdoor temperature and humidity via up to 3 transmitters (max. 100m)
- indication of indoor temperature and humidity,
- Max./min. function
- weather forecast, tendency of atmospheric pressure, bar graph indication of atmospheric pressure of the last 24 hours
- radio controlled clock with date, time zone ±12 hrs
- interchangeable °C/°F display
- wall or table mounting

Supplied with: Outdoor temperature and humidity transmitter, batteries 5 x 1.5V AA.

Specifications

Temperature range	
outdoors:	-40 to +60°C (-14 to 140°F)
indoors:	-10 to +60°C (-4 to 140°F)
Humidity:	1 to 99%
Dimensions basis station:	180 x 100 x 35mm
Dimensions transmitter:	160 x 43 x 28mm
Weight:	520g

Type	PK	Cat. No.
Diva Plus	1	**9.726 410**

2

2 Weather info center, Meteotime Star

TFA Dostmann

Weather info center "meteotime star" weather forecast via DCF signal made by professional meteorologists for 470 cities (90 meteorological weather regions) in Europe, 60 regions with 4 days forecast (today + 3 days), 30 regions with 2 days forecast, separated into day and night with expected highest and lowest temperatures, for the current day text display for critical weather situations, rain/snow/hail probability, wind velocity and direction, time for sun rising and setting, wireless transmission of outdoor temperature and humidity via transmitter (max. 30m), indication of indoor temperature and humidity, max.- min.-function, radio controlled clock with date, for hanging or standing, equipment: outdoor temperature and humidity transmitter, batteries 2 x 1.5V AA display station, 2 x 1.5V AA transmitter.

Specifications

Temperature range	
outdoors:	-40 to +70°C
indoors:	0 to +60°C
Humidity:	1 to 99%
Dimensions basis station:	132 x 120 x 39mm
Dimensions transmitter:	101 x 56 x 24mm
Weight:	570g

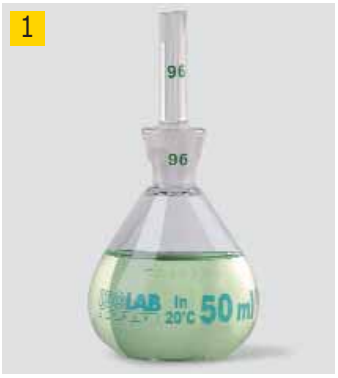
Type	PK	Cat. No.
Meteotime Star	1	**9.726 420**

1 Pycnometers, calibrated, Borosilicate glass 3.3.

DIN 12797. Individually calibrated to contain (In) to 0.001ml. Net volume capacity is engraved on the body. Each bottle is calibrated together with its stopper. In order to differentiate easily, both the body and the stopper have the same code numbers printed on themselves. *Isolab*

Capacity ml	PK	Cat. No.
5	1	**4.008 327**
10	1	**6.241 602**
25	1	**4.008 328**
50	1	**6.241 603**
100	1	**4.008 329**

1



2 Pycnometers, BLAUBRAND®, Borosilicate glass 3.3.

DIN ISO 3507, gay-lussac type . Including individual certificate. Adjusted. With NS10/19 capillary stopper. Stopper top ground and polished. Inscription in highly contrasting blue enamel. The volume in cm³ is specified to a precision of 3 decimal places. Calibrated to contain. Every pycnometer is calibrated with its own stopper; hence, stoppers are not interchangeable. Each bottle and its stopper is marked with an unique matching identification number. *BRAND*

Nom. capacity cm³	PK	Cat. No.
5	1	**9.277 305**
10	1	**9.277 310**
25	1	**9.277 325**
50	1	**9.277 350**
100	1	**9.277 400**

2

3 Pycnometers, BLAUBRAND®, with thermometer and side capillary, Borosilicate glass 3.3.

DIN ISO 3507, guy-lussac type . Including individual certificate. Adjusted. With thermometer and side capillary. Calibrated to contain. The volume in cm³ is specified to a precision of 3 decimal places. Inscription in highly contrasting blue enamel. Thermometer with translucent glass scale, with conical ground joint 10/19. Measuring range 10 to 35°C (0.2°C increments), mercury filled. Side capillary with conical ground joint cap 7/16. Every pycnometer is calibrated with its own stopper; hence, stoppers are not interchangeable. Each bottle and its stopper is marked with an unique matching identification number. *BRAND*

Nom. capacity cm³	PK	Cat. No.
10	1	**9.277 410**
25	1	**9.277 425**
50	1	**9.277 450**
100	1	**9.277 500**

3

4 LLG-Precison-Hydrometer, Alcoholmeters, with thermometer

Measuring range, graduation: 0.1% vol, with thermometer 0 to +30°C, graduation: 0.5°C, calibrated at 20°C.
Filling: blue. Overall length: 380mm
Optionally available with official calibration certificate, works certificate or DKD-calibation certificate.
Please specify with order.

Type	Measuring range % vol	PK	Cat. No.
1	0 - 10	1	**9.236 810**
2	10 - 20	1	**9.236 811**
3	20 - 30	1	**9.236 812**
4	30 - 40	1	**9.236 813**
5	40 - 50	1	**9.236 814**
6	50 - 60	1	**9.236 815**
7	60 - 70	1	**9.236 816**
8	70 - 80	1	**9.236 817**
9	80 - 90	1	**9.236 818**
10	90 - 100	1	**9.236 819**

4

1 Hydrometers, relative density (S.G.)

Shot poised. Without thermometer. Reference temperature: +20°C.

Measuring range g / ml	Sub-divisions g / ml	Length mm	PK	Cat. No.
0.600 - 0.800	0.002	280	1	**9.004 006**
0.800 - 1.000	0.002	280	1	**9.004 008**
1.000 - 1.200	0.002	280	1	**9.004 010**
1.200 - 1.400	0.002	280	1	**9.004 012**
1.400 - 1.600	0.002	280	1	**9.004 014**
1.600 - 1.800	0.002	280	1	**9.004 016**
0.700 - 1.000	0.005	300	1	**9.004 057**
1.000 - 1.500	0.005	300	1	**9.004 060**
1.500 - 2.000	0.005	300	1	**9.004 065**

Further models availlable on request.

2 Hydrometers, density, adjustable

DIN 12791 (and BS718). Adjustable. M100 series. Shot poised.
Without thermometer. Reference temperature: +20°C.

Measuring range g / ml	Sub-divisions g / ml	Length mm	PK	Cat. No.
0.800 - 0.900	0.002	250	1	**9.004 108**
0.900 - 1.000	0.002	250	1	**9.004 109**
1.000 - 1.100	0.002	250	1	**9.004 110**
1.100 - 1.200	0.002	250	1	**9.004 111**
1.200 - 1.300	0.002	250	1	**9.004 112**
1.300 - 1.400	0.002	250	1	**9.004 113**
1.400 - 1.500	0.002	250	1	**9.004 114**
1.500 - 1.600	0.002	250	1	**9.004 115**

Further models availlable on request.

3 Hydrometers, density

Shot poised. Without thermometer. Reference temperature: +20°C.

Measuring range g / ml	Sub-divisions g / ml	Length mm	PK	Cat. No.
0,760 - 0,820	0.001	160	1	**9.004 153**
0,820 - 0,880	0.001	160	1	**9.004 154**
0,880 - 0,940	0.001	160	1	**9.004 155**
0,940 - 1,000	0.001	160	1	**9.004 156**
1,000 - 1,060	0.001	160	1	**9.004 157**
1,060 - 1,120	0.001	160	1	**9.004 158**
1,120 - 1,180	0.001	160	1	**9.004 159**
1,180 - 1,240	0.001	160	1	**9.004 160**
1,240 - 1,300	0.001	160	1	**9.004 161**
1,300 - 1,360	0.001	160	1	**9.004 162**
1,360 - 1,420	0.001	160	1	**9.004 163**

Further models availlable on request.

Thermometers please see page 363.

1 Hydrometers, Baumé

Baumé type. Shot poised. Without thermometer. Reference temperature: +15°C.

Measuring range Bé	Sub-divisions Bé	Length mm	PK	Cat. No.
0 - 5	0,1	260	1	**9.004 305**
0 - 10	1,0	220	1	**9.004 310**
0 - 15	1,0	230	1	**9.004 315**
0 - 20	1,0	230	1	**9.004 320**
0 - 30	1,0	250	1	**9.004 330**
0 - 40	1,0	250	1	**9.004 340**
0 - 50	1,0	280	1	**9.004 350**
0 - 70	1,0	300	1	**9.004 370**

Further models availllable on request.

2 Hydrometers, mineral oil

With -10 to +60°C thermometer.
Adjustable.
Reference temperature: +15°C.

Measuring range g / ml	Sub-divisions g / ml	Length mm	PK	Cat. No.
0,610 - 0,700	0,001	390	1	**9.004 561**
0,680 - 0,770	0,001	390	1	**9.004 568**
0,750 - 0,840	0,001	390	1	**9.004 575**
0,820 - 0,910	0,001	390	1	**9.004 582**
0,890 - 0,990	0,001	390	1	**9.004 589**

3 Hydrometers, lime water $Ca(OH)_2$

For lime water $Ca(OH)_2$.
Without thermometer.
Reference temperature: +20°C.

Measuring range	Length mm	PK	Cat. No.
0 - 340 g/l	300	1	**9.004 640**

1 Salinometers, Bischoff type

For common salt.
Without thermometer.

Measuring range g / ml	Length mm	PK	Cat. No.
0 - 27	240	1	**9.004 650**

2 Hydrometers for acids/bases in %

Without thermometer.
Total length: 250mm to 280mm

For	Measuring range	Reference temperature °C	PK	Cat. No.
Ammonia	0 to 35 x 0.5 %	20	1	**9.004 651**
Sodium hydroxide	0 to 27 x 1 %	15	1	**9.004 652**
Sodium hydroxide	0 to 10 x 0.1 %	15	1	**9.004 653**
Nitric acid	0 to 47 x 1 %	15	1	**9.004 654**
Hydrochloric acid	0 to 39 x 1 %	15	1	**9.004 655**
Sulphuric acid	0 to 45 x 1 %	15	1	**9.004 656**
Hydrogen peroxide	0 to 30 x 1 %	15	1	**9.004 657**

3 Alcoholometer

Richter-Tralles type.
0 to 100% at reference temperature: +20°C.
Without thermometer.

Type	PK	Cat. No.
Alcoholometer	1	**9.004 400**

1 Hydrometers, high-quality plastics

NEW!

Ludwig Schneider

We use state-of-the-art processes to manufacture hydrometers made of high-quality plastics (polycarbonate). Each hydrometer is accurately adjusted, passes strict quality control and is marked with its individual serial number. Therefore, the determined values are traceable to the measurement device. Hydrometers made of plastics can even be used as test medium within quality management systems with the highest standards of quality, safety and reliability due to an optional calibration of our accredited calibration lab.

- Breakage protected (no glass breakage)
- Fully made of resistant polycarbonate (PC)
- High transparency (like glass), easy-to-read scales
- High precision and reproducibility
- Suitable for applications in food, pharmaceutical and cosmetic industries as well as many others
- Measuring units: specific gravity, density, Oechsle, % mas, Brix, ° Baumé, etc.
- Made in Germany: We are the only German manufacturer producing both precision glass and plastic hydrometers
- DAkkS or works certificates on request
- Food safety according to HACCP

1

Measuring range	Scale	Length mm	PK	Cat. No.
1.000 - 1.220g/cm³	0.002g/cm³	300	1	**9.236 840**
1.200 - 1.420g/cm³	0.002g/cm³	300	1	**9.236 841**
1.400 - 1.620g/cm³	0.002g/cm³	300	1	**9.236 842**
0 - 100°	1°	300	1	**9.236 843**
0 - 26%mas.	0.2%	300	1	**9.236 847**
0 - 12Bé	0.2Bé	250	1	**9.236 844**
9 - 21Bé	0.2Bé	250	1	**9.236 845**
19 - 31Bé	0.2Bé	250	1	**9.236 846**
0 - 35%mas./Brix	0.5%mas.	300	1	**9.236 848**
0 - 50%mas./Brix	0.5%mas.	300	1	**9.236 849**

2 Hydrometer jars, PP

With overflow chamber so that hydrometer can be read when cylinder is completely full. Impact resistant and flexible. With spout.

BRAND

2

Capacity ml	Int. diam. mm	Height mm	PK	Cat. No.
500	50	350	1	**9.004 900**

3 Hydrometer jars, glass

With spout and base.

3

Height mm	Diam. mm	PK	Cat. No.
150	38	1	**9.950 034**
200	38	1	**9.950 035**
200	50	1	**9.950 036**
250	50	1	**9.950 037**
300	50	1	**9.950 038**
350	63	1	**9.950 039**

1

1 Battery hydrometer

Battery acid tester 1.10 to 1.30.
Boxed complete with glass tube, rubber bulb and hydrometer.

Type	PK	Cat. No.
Battery hydrometer	1	**9.004 710**

2

2 Density meter Densito 30PX

NEW!

Mettler-Toledo Online

- Wide range of applications
- Easy to use: take a sample and read the final result
- Results within seconds displayed in the unit of your choice
- Choice of temperature correction coefficient before each measurement
- Intuitive user guidance and plain language display
- Clearly visible measuring cell
- External sample tip/external syringe connection for high viscosity samples

Supplied with: Protective case, density standards, cleaning tissues, instruction manual, flasks for cleaning solution, batteries, LabX® direct DE/RE data transfer software for data collection and manipulation.

Specitications

Density measuring range:	0 to 2g/cm³
Resolution:	0.0001g/cm³
Accuracy:	±0.001 g/cm³
Measuring units:	Density, relative density, density temperature compensated, relative density temperature compensated, Brix %, alcohol (gravity-%, volume-%, US Proof and UK Proof), Baumé, Plato, API (scales A, B and D), %sulphuric acid (gravitypercents), user-defined units
Temperature:	0 to 40°C
Measuring range:	0.1°C
Resolution:	either in °C or °F
Calibration:	with dry air and pure water or other density standards
Data storage:	storage space for up to 1100 results
Display:	Matrix-LCD with background lighting
Interface:	Infrared, protocol selectable (IrDA or RS232C)

Type	PK	Cat. No.
Densito 30PX	1	**9.947 550**
Density standards (6mL), 10-piece set with certificate	1	**9.947 551**

1 Dipping flow cups Frikmar

Aluminium. DIN 53211 viscometer.
For all types of liquid chemicals, varnishes, fluid enamels, gravure printing inks and leather dyes, oils, fats, foodstuffs etc.
With 4mm flow nozzle. Accessory 2, 3, 5, 6, 7 and 8mm nozzles are available on request.

Type	PK	Cat. No.
Dipping flow cups Frikmar	1	**9.149 898**

2 Flow cups

DIN 53211.
With fixed nozzle, 4mm.
(Also available with 2, 3, 5, 6, 7 and 8mm nozzles - details on request)

Type	PK	Cat. No.
Flow cups	1	**9.149 862**

3 Flow cups, without nozzles

For 2, 3, 4, 5, 6, 7 and 8mm outlet detachable nozzles.

Type	PK	Cat. No.
Flow cups	1	**9.149 860**

Flow cup nozzles

Flow cup nozzles to DIN 53211. For flow cup 9.149 860.

Int. bore diam. mm	PK	Cat. No.
2	1	**9.149 872**
3	1	**9.149 873**
4	1	**9.149 874**
5	1	**9.149 875**
6	1	**9.149 876**
7	1	**9.149 877**
8	1	**9.149 878**

4 Flow cup stand, ring stand

Stainless steel.

Type	PK	Cat. No.
Flow cup stand, ring stand	1	**9.149 881**

1

1 Viscometers, glass, kinematic, Ubbelohde

To ISO/DIS 3105. DIN 51562. BS 188. NF T 60 to 100. *SI Analytics GmbH*
Without documentation of the constants.
For manual and automatic relative measurements.

Type	Capillary	Constant K	PK	Cat. No.
53001	0a	0.005	1	**9.268 301**
53003	0c	0.003	1	**9.268 303**
53010	I	0.01	1	**9.268 310**
53013	Ic	0,03	1	**9.268 313**
53020	II	0.1	1	**9.268 320**
53023	IIc	0.3	1	**9.268 323**
53030	III	1	1	**9.268 330**
53033	IIIc	3	1	**9.268 333**
53040	IV	10	1	**9.268 340**

2

2 Viscometers Ubbelohde, glass, kinematic

ISO 3105, DIN 51562, NF T60-107 *SI Analytics GmbH*
For manual (type 501 ..) or automatic (type 532 ..) measurements.
Constants documented in manufacturer's certificate.

Type	Capillary	Capillary i.d. mm	Constant K	Measuring range mm²/ sec	PK	Cat. No.
501 00	0	0.36	0.001	0.2 to 1	1	**9.268 100**
501 03	0c	0.47	0.003	0 to 3	1	**9.268 103**
501 01	0a	0.53	0.005	0.8 to 5	1	**9.268 101**
501 10	I	0.63	0.01	1.2 to 10	1	**9.268 110**
501 13	Ic	0.84	0.03	3 to 30	1	**9.268 113**
501 11	Ia	0.95	0.05	5 to 50	1	**9.268 111**
501 20	II	1.13	0.1	10 to 100	1	**9.268 120**
501 23	IIc	1.50	0.3	30 to 300	1	**9.268 123**
501 21	IIa	1.69	0.5	50 to 500	1	**9.268 121**
501 30	III	2.01	1	100 to 1000	1	**9.268 130**
501 33	IIIc	2.65	3	300 to 3000	1	**9.268 133**
501 31	IIIa	3.00	5	500 to 5000	1	**9.268 131**
501 40	IV	3.60	10	1000 to 10000	1	**9.268 140**
532 10	I	0.63	0.01	1.2 to 10	1	**9.268 210**
532 13	Ic	0.84	0.03	3 to 30	1	**9.268 213**
532 20	II	1.13	0.1	10 to 100	1	**9.268 220**
532 23	IIc	1.50	0.3	30 to 300	1	**9.268 223**
532 30	III	2.65	3	300 to 3000	1	**9.268 230**
532 33	IIIc	3.60	10	1000 to 10000	1	**9.268 233**

3

3 Viscometer holders

Type 05392. VA steel. *SI Analytics GmbH*
Suitable for all Ubbelohde viscometers without TC sensors.
For manual and automatic measurements. Holds the viscometer perpendicularly.
Accuracy <1°. Protects the viscometer from damage.

Type	PK	Cat. No.
05392	1	**9.268 790**

4

4 Viscometer heating jacket

With support plate for Ubbelohde and capillary viscometers. *SI Analytics GmbH*
Can be thermoregulated in mantles in the temperature range 0 to 180°C.

Type	PK	Cat. No.
Viscometer heating jacket	1	**9.269 420**

1 Automatic viscometer ViscoClock

1

Introductory model for automatic viscosity analysis. *SI Analytics GmbH*
For determining absolute and relative viscosity.

The most precise method for determining the viscosity of liquids is to measure it in capillary viscometers.
The ViscoClock works in accordance with this method. Optical fibres precisely determine the liquid meniscus on two measuring planes, the running time is determined and displayed with a resolution of 0.01 secs. Since the measuring process runs automatically, subjective sources of error are reliably excluded. The 0.01% accuracy of the measured time for calculating the absolute and relative viscosity is given as a measuring uncertainty with a confidence level of 95 %.

The ViscoClock was designed to use of Ubbelohde, micro Ubbelohde or micro Ostwald viscometers and can be operated in all thermostatic baths with transparent tanks.

Measuring range:	Up to 999.99 secs./resolution 0.01 sec.
Timing accuracy:	±0.01 sec. ±1 digit, but not more accurate than 0.1%, given as measuring uncertainty with a confidence level of 95%
Measuring range viscosity:	0.35 to 10000 mm²/sec. (cSt) The absolute, kinematic viscosity is also dependent on the uncertainty of the numerical value of the viscometer constants and on the measuring environment, in particular the measuring temperature
RS 232C interface:	For connecting a printer with a serial interface or a computer (PC) for documenting the data
Operating temperature:	Stand: -40 to +150°C Electronic measuring unit: +10 to +40°C
Dimensions (WxDxH):	approx. 95 x 50 x 490 mm
Weight:	approx. 450g (without viscometer) Power pack approx. 220g
Viscometers accepted:	Ubbelohde (DIN, ISO, ASTM, micro), micro Ostwald.

Type	PK	Cat. No.
ViscoClock	1	**9.269 480**

2 Laboratory Viscometer ProRheo R180

2

ProRheo R180 is both a portable and "stand alone" rotational viscometer.
- rugged instrument housing
- easy to use and wide measurement range
- relevant parameters can be stored
- measuring systems according to DIN 53019
- measurement accuracy: < 1 %
- measurement range: 5 mPas to 540.000 mPas
- Torque: 0.25 to 10 mNm ±0.01 mNm
- rotational speed: 5 to 1000 rpm
- Measurement programmes: 8 measurement points at different shear rates:
  2 predefined test set-ups, 8 programmable test set-ups.

R180 viscometer includes:
- Power supply
- stand
- measuring tubes 1, 2 and 3
- measuring bobs 1, 2 and 3
- tube caps 1, 2 and 3
- Instrument case
- Operating instructions

Application table for measuring tubes and bobs

Type	Measuring system	Tube diam. mm	External body diam. mm	Viscosity min. mPa.	Viscosity max. mPa.	Volume ml	PK	Cat. No.
R180*	11	32.5	30	5	10000	approx. 24	1	**9.106 650**
R180*	22	26.1	24	10	20000	approx. 16	1	**9.106 650**
R180*	33	15.2	14	20	100000	approx. 9	1	**9.106 650**

* All applications are done with the same instrument.

1 LLG-Melting point apparatus

NEW!

Ideal for determination of the melting point of powders and substances that do not have a clear transparent melting point.

Both models have the following properties:
- Digital temperature control
- Sample can be monitored through a magnifying glass with integrated light
- For capillaries with 1.4mm outer diameter
- Automatic fan cooling that activates to cool off the device after completion of the measurement
- Text display of error messages
- Keyboard covered with foil for easy cleaning
- With operating instructions in German and English; brief instructions right at the device
- With integrated printer for saving space (only HV2)

H2 for visual, semi-automatic measurement with magnifying glass, without printer:
In this model, the melting point is determined visually and then saved by pushing the "Save" key. The starting temperature (approx. 3°C below the expected melting point) is set. A signal sounds when this temperature is reached. The sample is introduced and observed at a heating rate of 1°C/min. after the "start" key is pushed again. When the melting point is determined, the value can be stored by pushing the memory button and read on the display until the device is switched off or a new measurement is performed.

HV2 for visual measurement with magnifying glass or automatic measurement, with printer:
Either fully automatic or visual measurements, 1 sample each.
With this version, you can specify whether you want to observe the melting process through the magnifying glass or have the melting point determined automatically after the pre-set starting temperature is reached (indicated by sound signal). The device starts the heating rate of 1°C/min after introduction of the capillaries into the corresponding opening for automatic measurements. If you chose automatic measurement, a transparency progression is printed from the time the substance starts to become transparent (melting process) to absolute transparency (light-permeability). For visual measurement, only the melting point determined by you will be printed.

The scope of delivery contains 100 melting point determination capillaries and a device protection hood.
Refill pack melting point tubes for LLG-Melting point apparatus please order Cat. No. 9.208 131.

Specifications

Measuring range:	25.0°C to 360.0°C
Resolution:	0.1°C
Accuracy:	±0.5°C (+25°C to +200°C) ±0.5% of measured value °C (rem. measuring range)
Heating rate at fast heating:	to 200°C, approx. 4 min to 350°C, approx. 8 min
Heating rate when measuring:	1°C/min
Magnifying glass:	10x
Lighting:	2 x LED
Dimensions (WxDxH):	230mm x 220mm x 315mm
Dimensions capillaries:	1.4mm x 80mm
Weight:	4.5kg
Power supply:	115-230V, 50Hz

Type	Description	PK	Cat. No.
MPM-H2	Visual measuring / magnifier	1	**9.208 120**
MPM-HV2	Visual or automatical measuring with printer	1	**9.208 121**
Melting point tubes	Sealed one end, length 80mm, OD 1.40mm	100	**9.208 131**

1 2 Melting point apparatus, Electrothermal IA 9100/9200/9300

Electrothermal

With microprocessor heating oven control. Up to 3 melting points can be quickly and accurately determined simultaneously. The starting temperature of the approximate melting range can be input via the keyboard. The unit quickly heats up to this temperature and gives an optical and acoustic signal once it has been reached. When the operator then presses another key, the device begins to heat up at a constant rate (IA 9100 fixed at 1°C/min., IA 9200 and IA 9300 adjustable between 0.2 to 10°C/min. in increments of 0.1°C).
Up to 4 melting points(IA 9300 up to 6 melting points) can be recorded and transferred to the memory as discreet temperatures for later recall on the display. The different phases of a melt or the critical melting temperatures of various samples can be investigated under the same conditions in this way. Model IA 9200/9300 provides the opportunity for computer-supported data analysis. The initial temperature and heating rate can be set via the keyboard in order that various test protocols are available. An accessory printer enables documentation of the results, date, time (real time) and sample number. Model IA 9200/9300 can allocate continuous sample numbers or recall data via the keyboard. Information can be transferred directly to a LIMS computer via the RS 232 C interface. The 8X magnifier has a Ø of 40mm and an adjustable focal point. Units comply with VDE requirements (CE marked).
Model IA 9300 can be used for pharmacopeia requirements.

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Specifications

Dimensions (WxDxH):	200mm x 350mm x 85mm
Weight:	2.5kg
Input:	220V -240V
Output:	12V
Power:	45W
Oven output:	18W
Oven chamber illumination:	12V/ 2.2W
Oven temperature range:	45 to 400°C
Digital thermometer	
Sensor:	linearised industrial platinum resistance thermometer, compensated.
Measuring range:	Amb. to 400°C
Resolution:	0.1°C
Accuracy:	±0.6°C at 20°C ±1 digit
	±1.0°C at 350°C ±1 digit
Display:	Four-digit, 12mm high LCD

Type	PK	Cat. No.
IA 9100	1	**9.830 441**
IA 9200	1	**9.830 442**
IA 9300	1	**9.830 443**

Accessories for melting point appratus Electrothermal IA 9100/9200/9300

Type	PK	Cat. No.
Cold finger	1	**9.830 445**
Dust cover	1	**9.830 446**
Calibration set	1	**9.830 451**
Capillary tubes, 2.0mm Ø	100	**9.830 447**
Printer with connection cable	1	**9.830 448**
Cal. std. Carbazole (245.61°C) 0.5g	1	**9.830 469**
Capillary tubes, 1.5mm Ø	100	**9.830 463**

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1 2 Melting point apparatus, model SMP10/SMP20

Stuart

Supplied with 100 melting point tubes, open one end.
With BioCote, silver-based, antimicrobial protection.

Specifications	**SMP10/SMP20**
Number of samples:	2
Temperature range:	Ambient to 300ºC
Temperature accuracy:	±1.0ºC at 20ºC, ±2.5ºC at 300ºC
Display:	Three digit LED/Four digit LED
Display resolution:	1ºC/0.1ºC
Display hold facility:	No/ Yes
Ramp rates:	20ºC per minute to plateau, 2ºC per minute to melt/20ºC per minute to plateau, variable between 1 and 10ºC per minute to melt
Dimensions (w x d x h):	160 x 220 x 170mm
Net weight:	1.8kg
Electrical supply:	230V, 50Hz, 75W

Type	PK	Cat. No.
SMP10	1	**9.950 177**
SMP20	1	**9.830 430**
Lampe	1	**6.227 895**

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3 4 5 Melting Point Apparatus, advanced, SMP30

Stuart

- Maximum temperature 400°C
- Patented head up display
- Integrated cooling 350°C to 50°C in 12 minutes
- Large easy to read user friendly interface

The SMP30 can take three samples simultaneously within the optimised heating block. To allow maximum flexibility a plateau facility is included with variable ramp rate between 0.5 and 10°C in 0.1°C increments. The tubes are illuminated with bright white LED's to give the clearest view of the samples during the melt. The block has been designed for easy access for cleaning. To allow the most comfortable viewing angle the SMP30 features a two stage head adjustment. The SMP30 features the patent pending head up display, this unique feature displays a floating image of the block temperature, visible through the eyepiece, in front of the tubes.

An accessory printer is available separately to produce a written record of the melt.

Specifications

No of samples:	3
Temperature range:	Ambient to 400°C
Temperature resolution:	0.1°C
Display:	40 x 4 segment LCD
Ramp rates:	0.5 to 10°C in 0.1°C increments
Memory:	8 results per tube
Date/time display:	Yes
Cool down time:	350 to 50°C (~12 mins)
Heat up time:	50 to 350°C (~ 6 mins)
Supply requirements:	120V/230V 50Hz
Language variants:	English, German, French, Italian
Temperature unit:	°C

Type	PK	Cat. No.
Melting point apparatus, complete with pack of 100 melting point tubes, closed at one end.	1	**9.950 188**
Melting point tubes, closed at one end.	100	**6.803 067**
Accessory printer with power supply	1	**9.950 399**

1 2 Automatic Melting Point Apparatus, SMP40

Stuart

- maximum temperature 400°C
- utilises latest technology in digital imaging
- 5.7" colour VGA touch screen display
- unique split design concept
- integrated cooling: 350°C to 50°C in 10 minutes

The SMP40 automatic melting point uses the latest technology in digital image processing to accurately identify the melt of up to three samples simultaneously. The unit comes with a 5.7" colour VGA display, on which the melt can be watched real time, or the melt video will automatically be saved as an AVI file that can be reviewed later, either on the unit or via PC. The result can also be overridden if for any reason the operator does not agree with the result calculated by the image processing algorithm. The SMP40 has an innovative split design concept, the unit can be used as normal or the control side and the melt side can be separated, allowing maximum footprint flexibility. Once the unit has been split the control panel side can be used in two orientations, either landscape or portrait to allow the perfect viewing angle whether you are sat or stood at the bench, the screen automatically changes orientation with the unit. The unit can store up to 200 result files with videos, if required data can be easily transferred from the unit to a flash memory drive or PC via one of the USB connectors. All units are supplied with a calibration certificate showing individual serial numbers for traceability. The SMP40 conforms to Pharmacopeia and GLP.

The SMP40 is also available with IQ/OQ documentation according to FDA guidelines.

Specifications

No of samples:	3 simultaneously
Temperature range:	Ambient to 400°C
Temperature resolution:	0.1°C
Display:	5.7" Colour VGA touchscreen
Ramp rates:	0.1 to 20°C in 0.1°C increments
Memory:	200 results with video
Date/time display:	Yes
Cool down time:	350 to 50°C (approx. 10 mins)
Heat up time:	50 to 350°C (approx. 6 mins)
Flash memory/PC interface:	USB
Supply requirements:	120V, 230V 50Hz a.c.
Language:	English
Temperature units:	°C, °F

Type	PK	Cat. No.
Melting point apparatus, incl. 100 melting point tubes, closed at both ends	1	**9.950 398**
Glass melting point tubes, closed at both ends	100	**9.950 400**

3 Melting point tubes

Capillary tubes for melting point analysis. Clear glass, different diameters and lengths.
Special remarks are available. Other sizes on request.

Type	Length mm	Ext. diam. mm	Int. diam. mm	Material	PK	Cat. No.
Sealed one end	75	1.55	1.15	Soda glass	100	**9.208 076**
Sealed one end	80	1.00	0.80	Duran®	100	**9.208 081**
Sealed one end	100	1.00	0.80	Duran®	100	**9.208 101**
Sealed one end	80	1.40	1.00	Soda glass	100	**9.208 131**
Open both ends	80	1.00	0.80	Duran®	100	**9.208 080**
Open both ends	100	2.00	1.50	Soda glass	100	**9.830 447**
Open both ends	100	1.00	0.80	Duran®	100	**9.208 100**
Open both ends	100	1.50	0.90	Soda glass	100	**9.830 463**

4 Hot bench, Kofler system

Wagner & Munz

Very easy to use. Various characteristics can be observed simultaneously.
Linear temperature scale adjustment. Enables quick identification of organic substances.
Supplied with test and standard material sets. CE marked.

Dimensions (WxDxH):	430 x 100 x 140mm
Supply requirements:	230 V/50 Hz, 100 W
Temperature range:	+50 to +260°C

Type	PK	Cat. No.
Hot bench	1	**9.830 160**

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1 Microscope hot stage, Kofler, PolyTherm A

Wagner & Munz

Kofler system. Ensure the most accurate resolution for analysis on unknown melting points. Ready-made assembly with control transformer and microscope observation unit with accessories. CE marked. With digital temperature measuring system.

Supply requirements:	230 V/50/60 Hz
Sub-stage illumination:	6 V/20 W
Temperature range:	+50 to +350°C
Binocular observation tube:	45° angled, with 360° rotation

Type	PK	Cat. No.
PolyTherm A	1	**9.830 133**

E & OE.
www.wenk-labtec.com